DOCTOR OF EDUCATION (EDD)

Speaking Flames – A study of threshold experiences inherent in fire-cræft and the affordances of kindling metaphors for the principles they provide for progressive pedagogy

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A study of threshold experiences inherent in fire-cræft and the affordances of kindling metaphors for the principles they provide for progressive pedagogy

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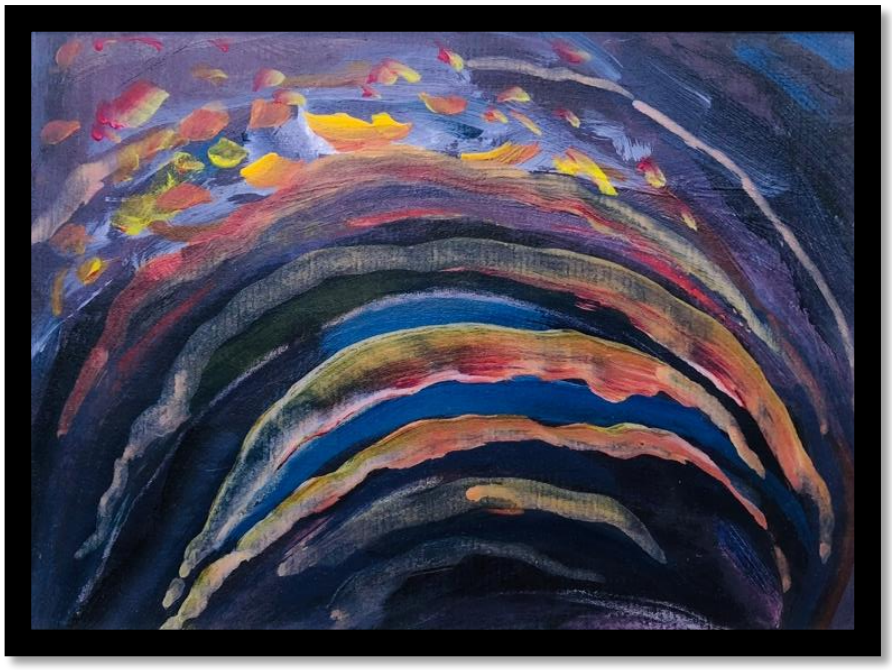
Declaration

I declare that the present thesis represents my own work, except where due acknowledgement is made, and that it has not been previously included in a thesis, dissertation, assignment, or report submitted to this University or to any other institution for a degree, diploma, or any other qualifications

Candidate's signature 

The tree can become a blossoming flame –
the human being a speaking flame –
the animal a walking flame

Novalis
(Krell 2006)



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Abstract

This thesis challenges current mandated pedagogy which has an overly instrumental focus on credentialism and education for employability. An alternative view of education is explored, initiated through the practice of fire-craft. Deliberations on the process and affordances of fire-lighting lead to the identification of principles for a progressive pedagogy for which *kindling* is both method and metaphor.

First steps were undertaken in this research through life-writing, an auto-philosophical lens which sought to understand how learning fire-craft has contributed to my own praxis as an educator. Introducing facilitated fire-lighting into a variety of pedagogical contexts sparked further questions. These sought to understand how kindling, when undertaken as a collaborative task, contributes to the personal and professional development of teachers.

Questions posed in the first half of this enquiry were considered through an analysis of findings gathered from three domains: 1) narrative accounts of my own encounters with fire and self-education in fire craft (first person perspectives); 2) unstructured interviews or 'fire talks' with individuals or small groups who participated in kindling sessions (second person perspectives); and 3) a critical engagement with literature in which fire-lighting is discussed in terms of kindling *in* education and kindling *in relation to* education (third-person perspectives).

Deliberations on research findings lead to an identification of seven distinct but interrelated stages inherent in the kindling task. Each stage was then considered for its educational principles that, taken together, contributed to the generation of a theory of *education-as-kindling* (EK). EK is a living theory of education that encompasses dimensions of making (cræft) and metaphor (meaning-making) and re-evaluates human ontology for contemporary educational purposes. I conclude with the proposal that teacherly actions like kindling are 'instances worth a thousand'; unique and contextual activities that can inform a broad array of progressive pedagogical concerns.

Chapter One

Figure 2
M.C. Richards – *Egg Series # 8*

Most of us think that knowledge and security make the world go around… (but) if the world seems to be going around very poorly, we do not think of questioning deeply its education.

M.C. Richards 1989:17

1. Introduction

1.1 Lighting Fires with Educators

Just over a decade ago, I began to introduce a collaborative task - lighting fires using traditional methods - into adult education contexts. The first time I undertook this 'teacherly action' was with staff in Ruskin Mill College (RMC), a Further Education college for students with unique learning and behavioural challenges located in Nailsworth, Gloucestershire. My reason for inviting staff members at the College to undertake the *kindling* task was so that they could have a first-hand experience of the kind of pedagogical approaches we were bringing to students who attended RMC. In time, I sensed the potential for fire-craft to contribute to the personal and professional development of individuals in other educational contexts, and I facilitated kindling sessions in conferences, workshops, and seminars to see if this was, in fact, the case. Over the past decade I have led kindling sessions in postgraduate teacher programmes, in inset days for teaching staff in schools, in public workshops, higher education conferences, and – in fact - in an ever-widening range of educational settings.

The inspiration or perhaps 'hunch' to include fire-lighting in adult education contexts grew out of my own informal apprenticeship in fire-craft (described in Chapter Two of this thesis) which I undertook during the early years of my employment at RMC. The way in which fire-craft challenged me physically and awoke my senses, and the way it quickened my thoughts and feelings, intrigued me deeply. The way it engaged me with the seasonality of the plant world and invited me to learn about the qualities of different types of wood heightened my awareness of time and place. The fact that I needed to accommodate to the different stages inherent in the craft of kindling captured my attention and piqued my interest. Fire-lighting also evoked in me the experience of being part of something both ancient and timeless, an age-old craft that also had real relevance for the here-and-now.

As I started to invite others to have a go at fire-craft it became apparent to me that the experiences it evoked in me, and the personal fascination with kindling that these fostered, were echoed in kindlers of all kinds. Over time the reflections shared by participants after fire-lighting sessions (discussed in Chapter Four) drew my attention to the multi-facetted ways in which *kindling* touched on some of the most potent, and pressing, questions educators grapple with today. Gradually this activity - initiated with four bits of wood and a piece of string – invited ever deeper contemplations of educational philosophy and surfaced potent questions of educational purpose.

Fire-craft continues to hold a unique place in my educational endeavours even when I am engaged in teaching contexts that seem wholly unrelated to it (which is the case for most of my teaching year). This is to say that even though I periodically facilitate practical kindling sessions for adult learners, the affordances of these events spread well beyond episodic encounters with fire to inform my activities as an educator more generally. I have come, in fact, to identify kindling as 'an instance worth a thousand' in my own professional

work as an educator (a phrase I will discuss in Chapter Seven of this text) but before it is possible to elaborate on this insight, some further explanation for why I have placed *kindling* at the heart of this thesis is required.

1.2 Formalizing this Enquiry into Kindling: Guiding Questions

Improving, or perhaps just increasing our awareness of what, why, and how we teach is widely recognized as an essential aspect of being an educator today (Whitehead 2019) and this thesis is firmly aligned with these aims. It is sparked by questions such as: Why do I find fire-craft so captivating and all-encompassing as an activity? What 'hunch' lay behind my idea of introducing the fire-lighting task into adult education contexts? And how is it that kindling has become such a significant activity – a touchstone – for so much of my praxis as an adult educator?

Out of the quite personal source for this enquiry, which sparked questions such as those posed above, the step to invite other educators into the kindling task evoked a further set of questions. These include: What impact does *kindling* have on participants who join in a fire-lighting session? What arises for participants when the craft is set as a collaborative task? and…How is it that kindling sessions regularly lead participants to reflect on significant questions of educational philosophy and purpose… not only about *why* or *what* we do as educators but about *who* it is that is at the heart of our educational endeavours? These initial musings informed my decision to formalize and focus this enquiry into the teacherly action of facilitated fire-lighting sessions for adult learners, to try and understand through this doctoral study the "experience of this action and its consequences" (Schwab 2004:111, quoted in Biesta 2020:66).

A few preliminary words on theory are pertinent at this point.

This enquiry was not initiated through an immersion into educational theory and philosophy but rather it grows out of a hands-on engagement with fire-craft into an ever-deeper deliberation of these. This is to say that whereas questions such as those posed above arose from working with fire-lighting in specific educational contexts, answers to these questions were not initially sought in extant educational theory but rather they instigated a generative approach to theorizing kindling which is documented in the pages that follow. The way in which this thesis arose aligns it with the kind of research approach taken by researchers/authors working in the Living Theory tradition, some pertinent elements of which are the following.

Whitehead (2019) describes a living theory as being one that is not derived from general concepts of theoretical frameworks but is one, rather, that begins with one's own practice and which – over time – locates itself within and in relation to a broader theoretical landscape. The aims of taking a living theory approach to research are "to understand educational influences in our own learning, in the learning of others, and in the learning of the social formations that influence our practice and understanding" (Whitehead 2019, 1). Whitehead posits that the *how* of living-theory methodology includes approaches found in phenomenology, action research, self-study research, and narrative research (2019,1) and elements of these do, in fact, contribute to this enquiry. Affinities and congruences with living theory research, with phenomenology, and other theoretical lenses have – however –

only become apparent to me in the very late stages of the composition and articulation of this text. Theorizing the affordances of fire-craft for both my own work as an educator and for considerations of educational philosophy more broadly has – in summary – been an *emergent process* and thus it won't be addressed further at this point.

In the following sections I will expand a bit further on the aims of this thesis, how it sets out to address these, and I will provide an overview for how the chapters of this text mirror the way in which this enquiry developed.

1.3 Aims and Approach Taken

As outlined above, the idea of placing the 'teacherly action' of *kindling* at the heart of this thesis grew out of my own first-person encounters with fire, with fire-craft, and my personal fascination with these. As I deepened my own capacities and began to garner my own impressions of the affordances of *kindling* as an educational action, I introduced fire-craft into an ever wider set of adult educational contexts. Participant reflections – second person perspectives – soon joined my own musings on fire-lighting and these surfaced core questions about the 'whys' and 'wherefores' of education.

In time, I wanted to understand how and why other educators included fire-lighting in their praxis and see what light their insights might shed on my own teacherly actions. Texts on bushcraft and forest school pedagogy were consulted (amongst others), and these began to broaden my understanding for how fire-craft has featured in educational initiatives. At this stage I also critically considered metaphorical references to lighting fires or 'kindling flames' in discussions of educational purpose, as it was evident to me from the outset that this well-used (and perhaps well-worn) metaphor for what, why, and how we educate hovered around any engagement with fire-lighting in the context of education.

I refer throughout this text to the various contributions outlined above (first, second and third person perspectives on kindling) as *findings* and not *evidence* for what fire lighting offers educators for their practice for the following reasons. This thesis does not set out to prove or promote this specific activity as something that educators *should* do to improve their teaching, their school, or raise the level of educational outcomes for their students – although it might just do all of these. Nor do I see kindling – at least in an explicit or 'strong' way (Biesta 2016) – addressing educational objectives such as *qualification* (traditional fire-lighting is not an essential skill for most jobs today), *socialization* (societies in which *kindlers* and *fire-keepers* are vital to the survival of its people are now virtually non-existent) or *emancipation* (notions of fire as a transcendent force or function in our personal experience and in society have largely been lost in a time dominated by materialistic and mechanistic ways of knowing). At the same time – and perhaps paradoxically – suggestions for why I think that kindling <u>does</u> contribute to all three of these educational aims emerges from the deliberations that follow. I will return to this proposal in the final chapters of this thesis.

Whereas I have described the aims of this thesis as having grown out of auto-philosophical aims – i.e. undertaken with a view to understanding <u>my own</u> practice (Biesta 2020, 14-18) and considering how to improve it – the stages undertaken in this enquiry into kindling have made apparent deep undercurrents and age-old questions that take it beyond purely personal concerns.

These questions are:
Q1. What is education for?
Q2. Who is education for?

Writing this thesis has led me to realize that facilitated fire-lighting sessions are my way of *asking* questions such as these, questions about educational purpose that were largely unconscious or implicit when I started learning fire-craft but which were made increasingly explicit in the reflections of participants after kindling sessions. The two domains – the domain of 'teacherly action' and questions of educational *purpose* have thus grown toward or into each other as this enquiry unfolded. Before elaborating any further on how facilitated fire-lighting as a teacherly action kindles questions of educational purpose (which I will do in the opening sections of Chapter Six) I will begin this thesis by stepping into the personal life story and practical activity that instigated it. These are the origins and inspirations for this study, and as philosophical and theoretical considerations *grew out of* an engagement with kindling as an embodied activity, it is fitting that these dimensions of this research are articulated first. Aligning this text with the developmental stages of this thesis has given rise to the following structure for its chapters.

1.4 Overview of Thesis Chapters

Chapter Two, Part 1: A Path of Fire – *1st Person Perspective*

The first part of chapter two is written in the form of vignettes which describe my early encounters with fire, how it came to feature in my personal life and - subsequently - in my professional activities as an educator. Education is a personal process, and where policy makers and politicians "look at education in the abstract and at a distance" (Biesta, 2016:2) each one of us who has experienced educational processes do so in very personal ways.

Written from a 1st person perspective (Hustvedt 2013) in narrative non-fiction style (sometimes designated as *life writing*), this chapter 'tells' my story, situates myself in it, and contributes a first collection of findings that are taken up for analysis and discussion in Chapter Six. I concur with Leitch (2018) who writes that "one's life story plays a strong role in the research one pursues" and hence an autobiographical style initiates this thesis and provides a foundation for subsequent elements of its development.

Chapter Two, Part 2: Invitation

Rooted as it is in direct, hands-on experience, this thesis begins with an invitation to the reader to *participate* from the outset in the process that lies at its heart.

Fire-craft provides the 'touchstone' for all subsequent reflection and analysis in this thesis, and the reader who has first-hand experience of the kindling process will have a different orientation to the deliberations that follow than one who hasn't navigated the many thresholds presented by the fire-lighting process itself.

This invitation is made knowing, however, that undertaking the kindling task may present practical challenges for some readers to realize. A modest surrogate for undertaking

the task itself is provided in the form of video documentation of fire-lighting sessions, these can be viewed prior to reading subsequent chapters of this thesis (for details of how to access these files and supporting material see page 29).

Chapter Three: The Task

In Chapter Three I describe the kindling task as I have worked with it in my praxis as an adult educator over the last decade – however, I don't do so in great detail. I do not discuss in this chapter my reasons for doing this or that in the actual context of leading kindling sessions, or the theoretical background for these. This chapter is included in the body of the text because attending to how I have designed my facilitation of the craft is as crucial as the craft itself – it is the educator's craft. Chapter Three also gives important context for, and a structure in which to present, reflections from participants in kindling sessions which are considered in Chapter Four.

Chapter Four: Fire Talks – *2nd Person Perspectives*

This chapter emerges from the previous two in that those experiences and events which led me to introduce kindling into adult education contexts (described in Chapter Two), and the ways in which I have shaped and constructed the task over time for participants in kindling sessions (Chapter Three) naturally leads to questions of what the individuals who engage in the fire-making task experience in doing so. I say 'naturally' because in seeking to understand the kindling task in the context of educational actions, participants' experiences and reflections on the task are essential for deepening an understanding of 'what it does'. Biesta writes in *The Beautiful Risk of Education;* "education is not an interaction between robots but an encounter between human beings" (2016:1) and understanding the nature of these encounters is served (in part) by hearing from individuals who participated in kindling sessions.

The 2nd person perspectives (Hustvedt 2013) recorded in this chapter allow for the "surfacing of personal and social understandings" (Leitch 2018) and contribute to the findings being collected for analysis in Chapters Six and Seven.

Chapter Five: Kindling in Metaphor and Materials – *3rd Person perspectives*

Chapter Five continues the process of 'gathering' undertaken in the opening chapters of this thesis by evaluating how *kindling* has featured in metaphor (on the one hand) and as a practical skill or exercise in a range of pedagogical contexts (on the other).

The 3rd person perspectives (Hustvedt 2013) considered in this chapter are sourced from literature discussing fire-lighting's place *in* education (as, for instance, *in* forest schools, *in* bushcraft education, or *in* 'survival' learning) and *in relation to* education – specifically in the use of kindling metaphors in discussions of educational purpose. Literature considered in this chapter is limited to these two categories and does not address educational theory or philosophy more broadly.

I introduce the notion of *education-as-kindling* in this chapter as a way of clarifying how fire-lighting features in my deliberations as distinct from its current usage either *in* education or *in relation to* education.

Chapter Six: Discussion

In Chapter Six perspectives on kindling collected in the first half of the thesis are discussed in seven stages that I have identified in the kindling process. This chapter also draws out key themes that are revealed through the process of kindling that begin to bridge deliberations of fire-craft with educational concerns in a broader sense – notably with questions of educational purpose. Theoretical and philosophical views relevant to educational discourse are drawn on in the discussions in this chapter where fire-lighting seems relevant to them and when they serve to illuminate a living theory for education emerging from this enquiry which I call *education-as-kindling*.

Chapter Seven: Instance worth a Thousand

This chapter discusses the relationship between the 'teacherly action' of *kindling* and how it might inform broader questions of educational policy, theory, and practice. It draws specifically on Goethe's unique insights into relationships between 'whole' and 'part' in dynamic and complex domains. I discuss in this chapter why *kindling* has become for me 'an instance worth a thousand bearing all within itself' by first explaining what I understand this phrase to mean followed by a further distillation of the principles evident in kindling and their wider relevance.

Figure 3

Chapter Eight: Conclusion

This chapter concludes this thesis with a brief recapitulation of the path I have followed in its development, what has emerged as findings from this enquiry and how these relate to the various challenges presented at the outset of this thesis that I have considered with regards to educational purpose and how education might support the 'art of becoming human[4]'.

[4] At this juncture – i.e. at the fourth appearance of the word 'human' in this text – the following needs to be noted. The term 'human' is not self-evident with regards to its *meaning*, and, in fact, it is quite a complex and even contested notion. The philosopher and spiritual psychologist Kuhlewind writes "I believe that our central problem is that we do not know what or who a human being really is" (1988) and I concur. Thus – rather than begin this text by providing any definition for the term 'human', I invite the reader to meet it – be it in Novalis' text at the outset, or in a quote from Biesta, or in my own writing – with an openness and attentiveness to what it

Chapter Two

Figure 4

One phenomenon must necessarily lead to other phenomena, as one experiment does to several experiments. Nature is a whole *– in which each part in itself can never wholly be understood. The true student of nature begins from any point and pursues his path step-by-step into the immeasurable distance with a careful connection and alignment of the individual facts. Thus, for example, pursuit of the process of combustion.*

Novalis, in Stoljar 1997:157

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might mean to be human…a human being. As has been stated above, a central aim of this enquiry is to see what a study of kindling might *lead to* when we ask 'who is education for?' and so at this point the 'who' is open, and 'humans' is not an answer but merely a signifier that awaits greater definition and articulation.

2. Encountering Fire and an Invitation

The vignettes in this section provide a context for how fire-lighting came to feature in my educational praxis. They were penned to make explicit those life experiences that preceded my self-education in fire craft and to describe what followed from this learning. If there is substance in the proposal that "one's life story plays a strong role in the research one pursues" (Leitch 2018), which I think there is, it is important that our stories are made explicit in the enquiries we undertake and the articulation of these. Written in a narrative style (Goodson & Gill 2014) the vignettes that are recorded in this chapter afford insights into why fire has featured in my pedagogical praxis in ways that more analytical or didactic approaches wouldn't have done. The insights that emerge through this approach contribute to the analysis undertaken in Chapter Six.

2.1 - 1st Person Reflections: Encountering Fire and Learning Fire-Craft

2.1.1 Enchantments: early formative experiences with fire

I have an abiding fascination with *fire*.

First sparked by seasonal trips to a pine-clad cabin in the glacier-carved granites of Eastern Ontario, my early enchantments with flames were kindled by campfires, kerosene lamps and wood stoves. These were tamed blazes; ringed with stone, shielded by glass, or encased in cast-iron.

Summer-time fires were comfort fires - barbecuefires and marshmallowfires - lit with bone-dry sumac branches and sustained with nightblack, compact, charcoal briquettes. These burns taught the art of *tending* as the forest floor - a litter of slow-to-decay, desiccated pine needles - was only just out of reach of fuel-seeking tongues of flame.

Figure 5

When the days grew cooler, and geese began to V their way south, swamp maples blazed an increasingly defiant red against the leaf-chasing chill of the oncoming winter. In this season of Thanksgiving…and of letting go… Fire burned in the brazen glow of the waning sun, in the cheeky leer of the jack-o-lanterns' smile, and in the tantalizing aromas of roasted, toasted, and slow-cooked autumnal food.

In winter, snow cloaked the hump-backed granite outcrops in pristine covers of crystalline silence. Tracks of deer, mice, and coyote – etched in this snowy parchment – bore testament to forays for food and fights for survival. Days were short-lived and, as darkness deepened,

sleep would descend as the lake-ice creaked and groaned on its watery bed and embers glowed in the Franklin's hearth.

My earliest teachings from Fire were thus through seasonal encounters that *situated* me in a sense-filled world.

2.1.2 Disenchantments: fire's 'reduction' in contemporary education

In contrast to the thoroughly contextual meetings with Fire that featured in cabin-days, there seemed to be no place for Fire at school.

Obvious as this may seem – given the inflammatory reaction that school days foster in many a truculent youth – I speak of a much more serious crisis than one averted by ensuring that arson and academia didn't mix.

Fire – banned from the school grounds that moated our classroom – was also banished from far loftier places, domains that it had held for millennia in the hearts and minds of many. Fire once configured the spiritual life of all people, in every corner of the globe. It was alpha and omega, worshiped and feared in equal measure as a *deity* active in the birth of worlds and agent of their destruction. For Heraclitus *"this cosmos was, is, and shall be an ever-living Fire, in measures being kindled and in measures going out".*

Figure 6

School-fit-fires were lab-based burners, lit courtesy of Bryant & May and Bunsen rather than by the great God Ra or Mother Kali. Stripped of its former sacredness, 'fire' (we were taught) is 'the rapid oxidation of a material in the exothermic chemical process of combustion, releasing heat, light and various reaction products'.

I experienced this cold and clinical account of combustion as the *death* of Fire, a sundering of that ever-living bridge between this world and an Other. Stripped of its *meaning* Fire didn't matter. Solid, liquid and gas did, but fire featured only in so much as it relegated these three – in its comings and goings – one into the other.

Looking back on my early education it appears from the distance of years as a largely incongruous exercise of learning a catalogue of answers for which I never had the questions. Under this barrage of facts, wonder and curiosity were often quenched and quelled. With Fire captured in the combustion triangle and fire tetrahedron, the ashen effect of this school-wrought worldview eventually manifested for me in a profound lack of *meaning* – that essential light which sustains a life and guides it on its path.

2.1.3 Fire Rites: awakening to the potency of fire-craft

I was thirty when I first witnessed the kindling of a fire with a bow drill and tinder. I watched, transfixed, while a colleague deftly worked a bow and spindle and enticed out of the hearth-wood a rising curl of smoke…and then a glowing ember…and from that ember a flickering flame!

A determination to learn this craft instantly awoke in me. I say *craft* because kindling fire with a bow requires skills and knowledge spared by the mechanical flick of a lighter's flint, or a strike of the cunningly arranged chemicals that tip a matchstick.

Figure 7

When I eventually did manage to light a flame through friction, the effect was so profound it was like a much-belated rite of passage – one that I had missed (as had the great majority of my peers) while being initiated with desks and tests instead.

I soon moved from kindling with borrowed kit – bows and hearth boards prepared by others – to learn for myself about various trees and the ways they enabled (or resisted) fire.

This was an education in the *woodiness* of wood, the quickness or recalcitrance of tinder, the fragility and conviction of embers. This new knowledge was not the abstract kind, entombed in textbooks or dispensed in digital code…this was a beyond-the-surface knowing that could only be gained through intimate encounters with Ash and Oak, Hazel and Ivy.

Fire's teaching throughout this phase of my education was that it – like *meaning* – is not given, it cannot be taken for granted but must ever be kindled anew.

2.1.4 Kindling, not filling: fire's place in my work as a teacher.

Fire inevitably found its way into my teaching.

To be precise, *kindling* has become a touchstone in both my practice and ponderings about education in ways that I couldn't have predicted it would. The stages essential in realizing a flame...from sourcing suitable bow-wood and tinder to tending a fire in its hearth, lead deeper into both place and people than any other educational process I have encountered to this point.

By the time I became a teacher of teachers, I knew that there was no better guide then Fire itself. "Form a group of three and your task is to light a candle from a flame kindled with a bow and tinder". No theory or 'whys' and 'wherefores' preceded an engagement with the kindling task. The key was to have a go, to experience, feel, sense, problem-solve, adjust, sweat, sing, laugh, cry – to realize flames…or not.

In kindlers' reflections that followed these sessions, Fire's life-lessons grew and spread.

'Fire-lighting has given me an *experience of how I want to teach*…I want to teach math like fire-lighting' mused a teacher from Toronto.

Figure 8

Another kindler, of Oneida heritage, said; 'we do not blow on the embers when lighting fire. In our creation story, our Creator blew life into our human form and that brought us to life…the Creator is the only being that can breathe life into something. For this reason, we only teach fire lighting with a fan.'

These echoes and insights were not, of course, limited only to the benevolent features of fire. Fire, as we well know, has its destructive sides as well as its benign. Learning to kindle flames is also an education in how to feed them, to fan them, to manage them…but also to control and contain them.

2.1.6 Ashes to ashes: encountering fire's destructive face in the Canadian Lakes

A brisk canoe paddle across the lake from our Ontario cabin lies the kind of island that Tom Thompson immortalised with his brush. These are rocky barques upon whose granite bows wind-whipped waves break and ice sheets shatter. Blanketed with scrubby undergrowth and sentinelled with a few scraggy pines, these lone strips of breached stone are intriguing and enticing stopping off sites for paddlers who are crossing the lake.

One summer's day, as we steered our canoes toward the island, we could see from a distance that it had been denuded and fire-changed. It sat in the water like a skeletal, three-masted ship – its sails and deck burnt to a crisp, its crew absconded or consumed. We disembarked to explore the charred remains of juniper and blueberry, baked moss crunching under foot, and met not fire but its all-too-stark calling card – crisped earth, blackened tree limbs, and wind-blown ashes.

Seeing that scorched island made me reflect that in those days, kerosene lanterns lit the cabin at night, with fine filament mantles fragile as a moth's wing though made for flaming. Or we countered the darkness with candles…paraffin candles, beeswax candles, moulded, rolled, and dipped. Some burned with a carefully crafted balance between wax and wick, dissolving steadily into heat and light…sublimating without a trace. Other candles smoked, dribbled, and dripped…sooty burners that spent themselves in unsteady, wavering flames… and sent forth creeping, congealing flows of wax that fingered their way over the tabletops and oozed slowly floorward.

All those flames burned in a space fitted, framed, and furnished with oiled pine boards, with burlap-lined walls, and with a roof tarred in bitumen paper. Had any of those fires escaped...

I am grateful to this day that I have not had to bear witness to that inferno. It would not only be a weathered pine cabin that flames would take, but a childhood and a youth – a cherished space that does not represent only solace and sociable solitude but *is these* in a world that seems ever more unhinged.

Whether it was neglect that left a smouldering campfire or bolt of lightning that set the island on fire that summer, we would never know. As we stepped gingerly over the ashes and edged our way carefully between the charred tree trunks that Fire had left in its wake, we were left in no doubt that Fire can consume as well as console.

2.1.7 Between Burnout and Boredom: fire in educational discourse

Over the last decade I have led fire-lighting sessions for educators on four different continents – on the east and west coasts of America, in Canada, China, South Africa and in Scandinavia. As I move through these teacherly spaces my ears are quick to pick up the many ways in which fire has entered the educators' discourse.

As teachers, we can kindle enthusiasm just as quickly as we can quench it.

We can be 'sparkers' of interest, of excitement, but also of anger.

Our students either 'glow' with health and vitality or are 'ashen' in exhaustion or illness.

In many places I meet with teachers who discuss and display the unmistakable signs of either 'burnout' or 'boredom' – two types of barrenness that are testament to fire's all-consuming nature or its altogether lack.

Educational leaders often speak of the amount of time they spend 'fighting fires', a term for crisis management that references another feature of fire – its unpredictable and fickle tendency to 'flare up' in places and to 'catch' when attention is focussed elsewhere.

In many parts of the world, it is becoming ever more apparent that educators are being asked not only to manage and be accountable to a prescribed curriculum or a syllabus but are – even before getting to these – needing to mitigate a myriad of mental health issues that flare up in their students and in themselves. These are also fires, and ones that should cause us concern.

These teacherly sayings are not 'mere' metaphors, they go to the heart of this enquiry which is about kindling but which – in essence – is about what it means to be and become *human* and how we educators support that quest. There are mysteries here, questions unaddressed – and even unasked – about who it is that lies at the centre of education today, and what contemporary education *is for*.

2.1.8 Risk Assessment: initial musings on fire-craft and educational purpose

The beautiful risk of education is that it might light some fires. In the risk-averse and compliance driven culture of contemporary education, the even greater risk is that we *won't*. We will fill league tables, PISA rankings, employability targets, CVs with credentials, build our bank of human capital but we won't kindle the kinds of fires which will take our culture forward.

Figure 9

On several occasions I have taken the task of kindling into conferences held on university campuses. I find it deeply poignant, in light of the above, that the first question I am inevitably asked in the pre-conference chaos is 'have you completed a risk assessment? Can we risk lighting a fire in the grounds of our higher education institution?' I am quick to think to myself: 'what if we don't?...!' I have, of course, always done an assessment. On paper it includes the obvious risks of cuts, minor burns, smoke inhalation, muddy knees, and bruised egos. But it also includes the risk that participants might experience something unpredictable, outside the hermetic sanctuary of lecture theatres and conference chambers. There is the risk of getting wet, or muddy, or sooty, or too close to someone you don't even know while trying to navigate the impossible choreography demanded by the bow, spindle, and tinder.

There is also the risk of effort expended with no 'achievement' of the 'outcome'. No fires lit. No smoke trail to tantalize the nostrils. Is this 'failure'? Or part of the path toward fire? Now we come to *risk*. The risk is that it is *all going to be learning* and that it will touch the body, the heart as well as the mind. And the highest risk of all is that the participants might well – will hopefully – learn something that I as 'facilitator' or even 'teacher' of kindling did not anticipate, did not predict or predicate. This risk needs more careful assessment.

A great danger in education today that rarely shows up on risk assessments is that what is being taught and learned is only pre-packaged, pre-determined, pre-prescribed outcomes which result in a rabbit-in-the-hat approach to education that fills students to over-flowing but leaves them lacking a sense of *meaning* and – crucially - of purpose. This approach to education may have the aim of creating another generation of consumers to keep the wheels turning on a 'what's-in-it-for-me' economy, but is this the essence of education?

By introducing fire lighting to teachers, I am not setting out to educate the next generation of professional kindlers so that employability targets for fire-lighters are met (there are none, and there is no need). But *through* the craft of kindling, I am asking the question of what it might mean for education to be about 'kindling' instead of 'filling'…and what it might mean for a human being to be – as the poet Novalis penned it - a 'speaking flame'. This thesis arises out of several years of pursuing this and related questions evoked by the practical act of *kindling*.

2.2. An invitation

This thesis takes as its point of departure a very particular hands-on activity. The experiences and insights that arise from engaging with this task have instigated, and are central to, all subsequent theoretical considerations in this text. As a reader you may therefore wish first to avail yourself of the core experience upon which this research is founded prior to engaging with its more reflective and theoretical components. To do this you will need to undertake the task of *lighting a candle from a flame that you have first kindled using a fire bow and tinder*. The following kindling components will be essential aids in undertaking this task (see images on page 28):

A pocketknife or penknife,
best if it is sharp

A small handsaw or a pruning saw
a fold-up type that can be safely stored away from skin and bone

A length of chord
you are welcome to make your own, from fibres of nettle or animal sinew… I tend to use nylon, braided

A bent branch, flat board, straight stick, and an offcut of wood
more specifically – a fire bow, hearth board, spindle, and bearer - the essential tools for the kindler's craft and one of our earliest technological innovations – four bits of wood and a length of string

Tinder
success *depends* on getting this right. It requires skilful preparation and forward planning – get this wrong and you will not get fire

A First Aid kit
just in case – risk is inherent in this task

A couple of companions
for the kindler new to the task, it is best undertaken with others (they will help – or hinder – its kindling either way)

Curiosity
this is the alpha and omega, or we are just filling pails

Patience and persistence
fire is not just 'out there', it is an inner fire too, and it needs tending

A Candle and…
The Courage to *give it a go!*

2.3 Kindling – Practical Dimensions of the Task

2.3.1 Tools for Kindling

Figure 10

2.3.2 Kindling Choreography

Kindling in groups of three with;
One person holding the spindle with the bearer
Two working the bow
The hearthboard is stabilized with a foot.

Figure 11

2.3.4 Video Footage from Kindling Sessions

The following resources are provided for the reader to view in order to get a sense for what a facilitated fire-lighting session entails. All of the resources provided below – including clips of specific stages of the kindling process – can be found in the University of Bath Research Data Archive by using the link: https://doi.org/10.15125/BATH-01252

The following order is suggested for viewing this supporting documentation.

1. Slide presentation titled 'Fire-lighting Slide Sequence' composed of photographs taken at a fire-lighting session I facilitated at a school in Denmark.

2. 'Fire Lighters Short' – an edited video of a fire-lighting session created from the files in 3. (below). This can be watched with either sound turned on or off (as the film maker produced this short video with text that was spoken by myself in a session that followed the practical kindling occurrence – the sound file is not synched with the video). This video provides documentation of the *stages* of the kindling craft (discussed in Chapter Six) and many *principles* (discussed in Chapter Seven) are also evident in this video which are discussed in concrete terms through an analysis of the 2nd and 3rd person perspectives considered in Chapter Four and Five of this text.

3. Un-edited footage from a kindling session. These files can be viewed as and when they are referred to at various points in this thesis. Particular clips/files are referred to specifically in various sections when they help illustrate the discussion and these are designated using a citation for the dataset and details of specific file that is relevant to the text at that point (for example: Code 2023, file: A. Opening Remarks JC.mp4).

2.4 Summary of Chapter Two

The preceding vignettes (in section 2.1) and video clips (above) tell the tale of my own encounters with fire and document the lived experience of kindling as an embodied, situated, and collaborative task. In the next chapter I provide descriptions of how I set the fire-lighting task for adult educators in outdoor kindling sessions. This outline of the practicalities of kindling provides the basis for hearing from fire-lighting participants what the activity has afforded their own experiences, thoughts, and reflections on kindling's contributions to the educator's craft.

One final consideration is necessary at this point: It will be evident to all those involved in education that the tendency to bring metaphors of fire-lighting to considerations of learning is not an infrequent event. 'Lighting fires' versus 'filling pails' is still an oft used phrase in educational literature today (which I consider in some depth in Chapter Five). It might be assumed, therefore, that this thesis is based on taking kindling metaphors literally and testing them out in practice. But this is not the origins nor the intention of this study. There is no predominance of either metaphor or making here but a mutual illumination of both.

Chapter Three

Figure 12

Figure 13

The current educational regime is based on a certain view about what kind of knowledge is important: "knowing that" as opposed to "knowing how".

Crawford 2010

3. Practical Considerations

3.1 Steps for Introducing Kindling into Education

As noted in Chapter One, fire-craft was first included in my teaching praxis shortly after my own, informal, apprenticeship had given me enough confidence that I could facilitate the process for others. The inspiration to bring my newly fledged craft into adult education courses came about when I was asked to design a staff development programme for educators and administrators working in the Ruskin Mill Trust colleges. The Trust's educational vision and ethos is informed by the Arts and Crafts movement (William Morris), aesthetic education (John Ruskin) and the integrative approaches that inform Waldorf education (Rudolf Steiner). My challenge at the time was that the staff development programme could not be purely, or even dominantly, theoretical in style or delivery. A central aim of my programme design was thus to identify and facilitate *experiences* for staff that could lead to them accessing first-hand insight into why the College placed craft, art, land work, and a particular view of human ontology at the core of its curriculum.

I had a hunch that fire-lighting encompassed a good deal of the kinds of experiences that staff would benefit from, and that these experiences (though this was not clear to me at the time in any detail) would also provide the basis for reflections that could *lead toward* a more cognitive grasp of the College's educational vision and approach. I have come to refer to this approach as the design of *threshold experiences* that provide the basis for subsequent reflection, theorizing, and teacherly action.

This chapter describes, in practical terms, the activity I settled on – that of kindling fires using traditional means. In various places in the following sections I provide links to video clips taken during a kindling session as a way to provide the reader with contextual, situational, and concrete examples for the aspects of the kindling task being described.

3.2 The Task

The task, as described to a group at the outset of a kindling session (sketched out above in section 2.1.4) is to *light a candle from a fire first kindled with a traditional fire making kit* (fire bow, hearthboard, spindle, bearer, and tinder). Wherever possible I construct the task to be undertaken in groups of 3 or 4 participants. An example of how this task is introduced to participants can be seen in (Code 2023, Folder: Kindling session - video files, file: *A. Opening Remarks JC.mp4*, in file: *J. what does it mean to kindle a flame. mp4*, and in file: *K. What does it mean to kindle a flame. mp4*. Note: all video files referenced from henceforth are located in the folder 'Kindling session – video files' in Code 2023, accessed through the link on page 29).

3.2.1 Preparation

For many years I made a point of preparing all the necessary fire lighting kit (pictured on page 28 and in Appendix A) prior to a session with teachers. This was largely due to time constraints. Preparing the kit properly takes time, needs to be done well in advance of

kindling sessions (for thorough drying of spindles, hearthboards and tinder) and requires prior knowledge of suitable wood for the different components of the fire-lighting kit. It was also done by myself in advance of facilitated sessions because I decided (or assumed) that as a teacher my role was to prepare the space, materials and kit and have everything to hand so that the main activity – kindling – could then be undertaken by participants as the core educational activity. Preparing the fire-lighting kit involves the following:

- Making a fire bow from a suitable tree branch and stringing it with a bow string.
- Identifying and cutting wood suitable for a hearthboard (I tend to use Ivy – pictured right).
- Shaping the hearthboard and setting it in a suitable place to dry.
- Identifying and cutting wood suitable for spindles (I tend to use hazel).
- Stripping bark and cutting spindles to size and setting in a suitable place to dry.
- Identifying and collecting tinder and setting it in a suitable place to dry (for tinder any number of plants are used from hay, straw, birch bark, pine needles, to the loose, dry seed-hairs of bullrush, old man's beard, thistle – whatever is locally available).
- Sourcing birch bark or an alternative for use as ember pans (to catch the ember when kindling).

Figure 14

Over time I have come to see *preparing* for fire-lighting to be as important as the task itself – perhaps even more so. This realization also emerges from participant reflections (documented in Chapter Four). 'Success' in kindling a fire relies on adequate preparation and this means that in many of the sessions that I facilitate with groups, they are relying on the preparation that I have done on their behalf. This is made explicit to the group at the beginning of each session. Increasingly I have built *preparing* into the process for participants themselves to undertake and this brings elements of skill building, judgement (assessing types and qualities of materials), forethought, problem solving and planning into their process which is circumvented if performed solely by myself in advance of the kindling task. Including the practical element of preparation in sessions also – I have come to realize – prepares the preparer…develops a suitable 'readiness' for the kindling task itself. When preparation of the fire-lighting kit is included in the kindling process, an enriching of fire-craft is afforded in quite significant ways – a realization with much wider implications for pedagogy more generally. I will pick up on these deliberations in section 6.1.

3.2.2 Situating

Preparation also includes a particular attentiveness to the physical location and weather conditions that create the 'context' for the fire lighting task. A very focussed and 'local' activity (kindling) is cradled in a very large context indeed – not only a physical

context but one that incudes seasonal influences (time) as well. I usually start watching the weather forecasts and observing atmospheric conditions a week before a session, and with increasing attention as the activity day approaches.

Prior to each kindling session a site is chosen, evaluated, assessed for the potential complicating factors of wind strength and direction, rain or sun, flammability of surrounding plants or environs, suitability of spaces for different groups to work in, possibilities for shelter or opportunities for being 'in the elements' in an unbounded way. This is a 'place audit' and is essential to be undertaken prior to working with a group. In many cases a location or area is surveyed to identify several possible locations for fire-kindling so that the process can take place in the face of any eventualities – heavy rain, strong winds, excessive dryness or heat, and so on. This stage of preparation attempts to anticipate conditions for when the task will be undertaken. This element of kindling develops *situational knowledge* and *insight into a place* that would not otherwise be developed. (Video footage of an introduction to a kindling session in which the above considerations are presented to a group can be viewed in Code 2023, file: *B. Beginning of Demonstration.mp4*) I will also discuss this foundational aspect of fire lighting in section 6.1.

3.2.3 First steps

In my experience, the majority of adults who have participated in a kindling session with me have never undertaken this task before. Knowing this informs my process of introducing the task when a group is gathered. I begin by describing, in quite simple terms, the task and aim of the session. This is usually something along the lines of 'we are going to get into groups of three and each group will aim to light a candle from a fire first kindled with a fire-bow and tinder'. Each group is given a candle to light. We may also, depending on the context, light a fire in a fire-circle (if in an outdoor setting) or in a hearth, if in an indoor setting with a fireplace. These fires become the gathering point for our reflections that follow the activity.

At this point in the process, before going any further with contextualizing the task or giving a demonstration of fire-lighting techniques, I ask each individual in the group what reaction or response the setting of the task evokes. This is a check-in, a gathering of first impressions and it brings to awareness for everyone that we are engaging in an 'inner' process as well as an 'outer', embodied task in the physical world.

Responses to this check-in vary considerably (I discuss some of these in section 4.2.2) – from anticipation and the expression 'can't wait' to more nervous, uncertain responses and even some degrees of trepidation or inner voices of assumptions of failure. Some clips of initial responses to hearing about the task are accessible in Code 2023, file: *C Participant reactions to tinder demo.mp4*.

Following the check-in, I usually give a bit of a background for how I came to learn about kindling (described in the first vignettes of Chapter Two and viewable in Code 2023,

file: *B. Beginning of Demonstration.mp4*) but I intentionally withhold any rationale, reasons, aims or objectives in terms of pedagogical theory or educational approach. In some cases, prior to describing the task as I have above, I will tell a story that imaginatively 'opens' the groups attention to fire and how humans came to fire-craft (see Appendix D for an example of one such story that I have used on several occasions to date; *How Coyote Stole Fire* – A Native American story).

Figure 15

3.2.4 Demonstration of Technique

Having undertaken the check-in and shared a story, I then give some instructions and a demonstration of the fire-lighting technique. My aim at this point is to give enough information/demonstration to get small groups working together, but not so much as to remove the need for a considerable amount of self-navigation on the part of the individuals and groups who are taking part in the activity. *Demonstrating* is – like preparation – an ever-evolving aspect of the pedagogy of kindling and an ongoing area of enquiry for me as a facilitator. How much detail is enough? How much is too much? When do I sense the group 'switching off'? What are they missing, can miss, shouldn't miss? These are not just questions of technique but also touch on the central questions of pedagogical approach. Do I want the process to be trouble free? No – I am trying to strike a balance between "problem solving and problem finding" (Sennett 2009). If the task was to light a candle we may as well just use a match.

In some contexts where fire-craft kit has been prepared by other teachers of this craft, the kit has been so well prepared that the group may as well have been given a match. But this is to remove rich possibilities of solving/finding in the process and much of what I see as the core potentials offered by the activity. I discuss this design element of my kindling praxis at much greater length in Chapter Six.

My experience to date is that demonstration is an art, and of crucial importance to what ensues. It is risky. For some members of the group, it will not be enough. For others almost any advice or instruction is too much (see section 4.2.3). This is kindling.

Video documentation of a demonstration taken from one kindling session can be seen in Code 2023, file: *D Setting spindle in bow and on hearth board demo. mp4*, in file: *E. First bowing demo.mp4*, and in file: *F. Bowing demo longer.mp4*.

I often ask a couple of individuals to join in me in the demonstration. Each participant takes one end of the fire-bow and I use the bearer to hold the spindle in place and allow it to come into rotation in the hearthboard (a 'choreography' depicted on page 28). More will be said about the process in due course, but staying with the theme of demonstrating for now, the aim at this point in the process is to convey the *mechanics* of the task as succinctly as possible, knowing that putting these into practice will inevitably require a very high degree of physical and social negotiation when the groups undertake it on their own.

In its most succinct aspects, demonstration of the kindling process involves:

- Demonstration of the proper and safe use of knives (which are required during the task)
- Description of the health and safety considerations for the whole task

- Short practical demonstration of the mechanics of using the fire-kit and suggestions for how to divide up the different tasks in a group
- Demonstration of the proper rotation of the spindle in the hearthboard and how, if this is successful, smoke arises and ultimately an ember is generated
- Demonstration of how to make a tinder nest (clips of this stage can be seen in Code 2023, file: *G First tinder demo.mp4* and in file: *H Tinder nest demo.mp4*).

Demonstration is, as mentioned above, an ever-evolving aspect of facilitating fire-lighting sessions and consideration is required extending from how the physical, mechanical process is made clear to what language is used and how descriptions influence kindler's expectations, abilities to navigate the thresholds encountered in the task, and so on.

3.2.5 Facilitation of the Process

Once groups have been given a demonstration of what is required for the technical and practical dimensions of fire-craft, I then step back and let them self-navigate. If they have questions about any of the practical details, I will guide them – but will begin to advise rather than instruct. This, in fact, is a distinct shift in my facilitation approach at this point.

My primary aim is that kindlers get engaged with the tools, the equipment, the place and space, and with each other (clips of moving into a kindling space can be viewed in Code 2023, file: *L Group walking out over bridge.mp4*, and in file: *M. Walk into woods.mp4*, and in file: *N. Walk to shelter.mp4*).

Once a site has been chosen by each group, they begin to negotiate amongst themselves different roles, approaches, techniques and ways for problem-solving what is presented to them in the task of fire-lighting This is a core 'threshold' in the kindling task. Some groups get on with it and clearly have very little wish for my input (even if advice would clearly benefit them!). Other groups continue to bring questions and seek some recommendations. From a process point of view, my aim is to try – for each group and in fact for each individual – to assess when input and advice is not needed and when a bit of a nudge, or assistance will potentially contribute to their kindling efforts. For a facilitator of the process of kindling this goes to the heart of the pedagogical potency of this activity. Due to the many considerations that facilitating fire-craft evokes this aspect of the process will be considered at much greater length in chapters that follow.

Video footage of groups navigating the early stages of the kindling process and facilitation during a kindling session can be viewed in Code 2023, files T00 – T11.

3.2.6 Kindling Outcomes

The question of outcomes with regard to the kindling process is quite complex, as I have alluded to in section 2.2.8 (and discuss in Code 2023, file: *I. what do we mean by 'success'?mp4)*. Though an objective is clearly set in the naming of the task – i.e., to light a

candle from a fire first kindled with bow and spindle, the question of what constitutes 'achievement' or 'success' in the context of kindling is nuanced, often filled with some tensions, and is answered in a wide range of ways. Participant reflections (discussed in Chapter Four) will address this theme and I will discuss it in much greater detail in Chapters Six and Seven.

3.2.7 Reflections and echoes

Whatever results from the kindling efforts of different groups – be it a candle lit, a fire in the hearth, smoke but no fire, a group's decision to stop trying…a kindling session ends with a period of reflection. Where possible, reflection is facilitated through creative writing exercises such as the composition of poems (see section 6.6 and Appendix E). I generally suggest that reflection is initially undertaken at an individual level. This is an open reflection with suggestions to include thoughts, feelings, insight into materials, the space, the practical task itself, the group dynamic, my contributions to the process or anything else that seems significant. This first stage of reflection is followed by a second, reflecting in small groups. Finally, we come back together as a whole group and discuss insights, impressions and experiences afforded by the collaborative kindling task.

As a basis for my own reflections and sense-making of the process I have taken photographs during the kindling session or have had a photographer present. The video files that are linked to this text were also taken as supportive material, and are an invaluable record of a kindling session. These video files provide supporting material for deliberations on the fire-lighting activity that cannot be captured in verbal feedback or written pieces alone.

Figure 16

3.3 Summary of Chapter Three

The outline above of how a kindling session is prepared, structured, and facilitated is provided so that the reflections from participants (2nd person perspectives) that follow in Chapter Four can be contextualized in relation to how the task usually unfolds. The outline of steps taken is, however, just that – an outline – and it is not prescriptive or doggedly followed. Inherent in the task as I work with it is the need for responsive, flexible, and adaptive structures. I do not include kindling in the pedagogical contexts that I work with in a 'strong, predictable and controllable' (Biesta 2016) way, but it has an inherent 'weak' quality in that although there are aims and objectives (lighting a candle and a fire to gather around) these are negotiable as 'outcomes' or 'achievements' and are often taken as such by participants. In the next chapter I will present what has arisen from participant reflections on the kindling activity and will give some framing for the approach taken to gathering the reflections analysed.

Chapter Four

Figure 17

If we are all creators of our own destinies then we do hold the ability to bring something to life, with our imagination, innovation, and effort. Just not our breath: that gift is reserved for the Creator.

K. Elijah – Personal Communication

4. Introduction to Chapter Four

In Chapter Two of this thesis I described, from a 1st person perspective, how I came to learn fire-craft and how I came to include it in in my praxis as an adult educator. As I sought to make sense of my own education, which had become increasingly abstract and dis-embodied the more I progressed through its disciplines and departments, I came to the experience of fire-lighting using a fire bow and tinder. I found this to be a particularly poignant and captivating task. This was initially experienced on a visceral level – a whole-bodied or full-personned sense that it was an activity with a particular potency. Fire lighting invited me into a deeper encounter with my own physicality and that of my surroundings, it awoke in me strong emotional responses and moments of insight into fire's historical role in human *becoming*.

In this chapter, I turn from my own personal experiences of kindling to consider the experiences of others. I have now facilitated kindling sessions in a wide range of countries and contexts and, over the last decade, reflections from participants have revealed a wealth of insight into many dimensions of the kindling craft. For the purposes of this enquiry, I formalized a number of these reflection sessions into conversations to learn from participants what they had to say about the task of lighting a fire in the context of educational research and practice.

4.1 Fire Talks: Kindlers' reflections on *kindling*

I have called the interactions with participants that feature in this chapter *fire talks* and not interviews for a few reasons. Firstly, they were unstructured – almost radically so – most reflections were instigated with the open question 'fire lighting: so what?'. My decision to leave the space for reflection and response so open was out of a wish to not frame or guide the participant's responses in any way (Gubrium & Holstein 2003). I was interested to hear what was 'on top', foremost in the individual or groups' mind, and then to respond, where I felt it appropriate to do so, with clarifying questions based on what emerged. If I did provide any elaboration or additional guidance prior to starting the talks it was that thoughts, feelings, experiences were welcome and any of these could be shared. This approach is, methodologically, akin to the *active interview* approach described in *Postmodern Interviewing* (ibid).

As is evident from the transcripts of each talk, I often asked questions once participants had been given the opportunity to respond as they chose. It is very important to note that I consider the reflections and insights provided by participants in the fire talks 'surfacings' (Leitch 2018) and not 'evidence' or 'proof' of what fire-lighting *does* in any strong or certain sense (see Biesta 2020 Chapter 3). Evidence, from the 'strong' perspective, is usually deemed to be valid, reliable, and 'true' if it can be corroborated by research undertaken with a different set of interviewees who will respond in the same way given the same questions and criteria. In *The Active Interview* a description is provided for how 'talks'

such as those that form the basis for this study differ from how interviews are often worked with from "traditional scientific standpoints" (Gubrium & Holstein 1995:9)

> When the interview is viewed as a dynamic, meaning-making occasion…different criteria apply, centered on how meaning is constructed, the circumstances of construction, and the meaningful linkages assembled for the occasion. Although interest in the content of answers persists, it is primarily in how and what the subject/respondent, in collaboration with an equally active interviewer, produces and conveys about the subject/respondent's experience under the interpretive circumstances at hand. One cannot expect answers on one occasion to replicate those on another because they emerge from different circumstances of production. Similarly, the validity of answers derives not from their correspondence to meanings held within the respondent but from their ability to convey situated experiential realities in terms that are locally comprehensible (ibid).

When it comes to analysing and interpreting the 'surfacings' from active interviews, the suggestion is made that this is something of an art (Gubrium & Holstein 2003:78). They suggest that with 'ample illustration' and adherence to the 'records of the talk' the active analyst documents how participants have contributed to meaning-making through their responses. The analyst's reports of the interviewees' responses "'de-construct' participants' talk to show the reader both the *how's* and w*hat's* of the narrative dramas of lived experience" (ibid:79).

The organizing framework that I have used in undertaking an analysis of the meaning-making these fire talks provide is the stages of the kindling process itself (as outlined in Chapter Three). The decision to group themes according to these stages in the process is so that insight into each stage can be clearly identified for further analysis in subsequent chapters.

4.2 Fire Talks: Reflections on Stages of the Kindling process

The stages of the kindling process that I use as a framework for analysing Fire Talks are:

- 4.2.1. Preparation
- 4.2.2. Introduction
- 4.2.3. Demonstration
- 4.2.4. Forming groups
- 4.2.5. Kindling
    - A. Reflections on practical task (general)
    - B. Reflections on social process
    - C. Reflections on the place and space
- 4.2.6. Specific reflections on
    - A. Physical dimensions of experience
    - B. Emotional dimensions of experience
    - C. Spiritual dimensions of experience
- 4.2.7. 'So What?' for education

Below is a list of kindlers who participated in 'active interviews' or what I have called 'fire talks' which were held after fire-lighting sessions. The names of participants have been changed and replaced by a pseudonym for discretionary purposes.

Participant	Date of Fire Talk or Other Reflection	Participant information	Comments
Mary	Jan 2020	Instructor in a College for young adults with learning and behavioural needs	This talk took place the day after a kindling session held in California
Sam	Jan 2020	Key worker in a College for young adults with learning and behavioural needs	This talk took place the day after a kindling session held in California
Meg	Jan 2020	Employee in finance, participant on PGCert teacher education course	This talk took place a full year after a kindling session held in Sussex, UK
Erik	Feb 2020	President of adult education college	This talk took place 6 months after an initial kindling session and 2 days after a second session (the first in California, the second in Sussex, UK).
Paul	Feb 2020	Associate Professor in a business school	This talk took place a month after a kindling session held in Sussex in the UK.
Greg	Feb 2020	Vice-president of college for young adults with special needs – faculty on postgraduate teaching course	The talk took place online after sessions held both in California and in Sussex, UK.
Val	Sept 2021	Teacher on postgraduate teaching course	This talk took place on the day of a kindling session, after the practical stage had concluded, in Stroud, UK
Tammy	Sept 2021	Teacher on postgraduate teaching course	This talk took place on the day of a kindling session, after the practical stage had concluded, in Stroud, UK
Abe	Sept 2021	Teacher on postgraduate teaching course	This talk took place on the day of a kindling session, after the practical stage had concluded, in Stroud, UK
Bruce		Teacher and facilitator of fire-lighting sessions	Personal Correspondence - This reflection was circulated in the form of a written text sent out to all those who participated in a kindling session held in South Africa
Fatima		Teacher	Personal Correspondence – reflections sent in by email
Kaya		Teacher	Personal Correspondence – reflections sent to me by email

4.2.1 Preparation

In a thorough review of a kindling session that I facilitated in South Africa, the author commented "Jonathan's wonderful idea of inviting us to make our own bows and find our own kindling/tinder was very effective. Where there are many ways to learn and probably nearly as many different learning preferences, there can be little doubt that it is only through holistic involvement and doing that we are able to optimize our learning".

Bruce continues in another section of his feedback to note; "in our frenetically paced modern world our focus is myopically on outcomes – or destination-based and we pay relatively little attention to preparation and the journey". This comment was directly related to the fact that I introduced into the session that Bruce (also a teacher of fire-lighting) experienced the task for each group to make their own bow and gather their own tinder.

Another innovation that I introduced into this group as a preparatory task on a more personal/social level was for each participant to think of a story about how fire had featured in their lives. Bruce reflected that "sharing our very personal fire stories was a marvellous way of preparing for what was to come…having taught in excess of 4000 people to create fire, this was a first for me and I want to thank you Jonathan for adding this beautiful spark to my fire tool kit".

Paul reflected on how he realized that, in reference to my introduction to the fire-lighting kit and what woods were chosen, "these things needed to be thought about and had a big impact".

Erik prepared fire making kit in advance of the exercise for a kindling session held in Sussex, UK. Erik commented on how preparing kit for fire lighting informed his own work as a teacher of orienteering; "the collecting piece was a big one because I realize that I hadn't done enough of that 'starting' with students…with orienteering we got into skill and map reading a little bit fast…I would want to take more time just experiencing the landscape and experiencing the senses". He also commented on the importance of timing and situating in the following; "wow, the timing…the timing…especially paying attention to the environment that you're in…the timing of the size of the log that you put on…" – comments that grew out of his experience of undertaking the kindling task in different contexts (first in California and then in England), the different seasons and environmental conditions, the different qualities of the tinder and fuel, and so forth.

Sam commented on the importance of, and her attention to, preparing the "space to transfer the spark from its origin to the fire pit" in a passage that touches on the need for preparation *within* the kindling process (as well as *before* sessions) and how much attention is needed to be put into gathering and assembling the right fuel so that the fire would be able to 'take'.

Comments from kindlers on the stage of preparation are sparse due to the fact that I have not often involved participants in this stage of the process and a significant realization from this research (and the few comments noted above) is the importance of building *preparation* and *situating* in much more prominently into my fire lighting sessions, a point I will return to discuss further in section 6.1.

4.2.2 Introduction to the task as provided at the outset of a kindling session

(video documentation relevant to this stage include files A, B, J, K in Code 2023)

Meg noted that "when you walked through the process it sounded easy" …" like reading an instruction manual" giving rise to the impression "it sounds simple".

Paul said that he was "fascinated that you didn't give us any theoretical framing…but you spent a lot of time introducing us to the materials and…demonstrating how different things worked and how you'd collected them, where they came from…" and he could "remember feeling that I was entering into a different sort of space as you introduced these things…what was very clear was that this was something…this was not just you giving instructions…I experienced you as someone who is deeply connected to these materials and your narratives and stories around collecting them…all of these things just came out and came with such ease…that it stopped being an exercise and started becoming an education…". Paul commented on being fascinated to hear about what went into preparing for the session, the different types of wood that were selected (and why) and how long they had been drying; "all sorts of things I remember finding absolutely fascinating".

Figure 18

Tammy thought the introduction was "very clear. Not overly padded. Bare bones, really clean." She also noted that my additions to the introduction where I would note that "some people do it differently", referring to the choice of materials, ways of fashioning the kit etc., raised a bit of anxiety for her because she wasn't getting The Way of fire-lighting but a way, Jonathan's way. She noted that "I just had to say 'Ok, this is Jonathan's way' and that's good. Another day, another week, another month, another year…and it can become something else. There's more to know. All this in that one sentence you threw out!"

Abe expressed that he was excited to undertake the task, excited to do it with the others in the group and that although he himself thought it was going to be easy, he had heard from one of Jonathan's colleagues that they were going to meet 'resistance' and 'challenge'.

Tammy noted – in the early, post-introduction stage when I ask for participants' initial impressions or responses to hearing about the task – "I expected to fail, a lot". Abe expressed being very excited, thinking that it was going to be easy.

A wide range of emotions are expressed by participants in a group at this point – ranging from eager anticipation, to doubt and trepidation. Rarely – if ever – have there been expressions of nonchalance or disinterest except for in the very earliest fire-lighting sessions that I ran with staff at RMC. Many of these attitudes and reactions were not, however, directly related to the kindling process but to the organisational imperative to undertake the staff training programme. Fire lighting, in fact, tended to dissolve many truculent, recalcitrant, or non-committal responses - which was one of my hopes for introducing the kindling task into an organisational context in the first place.

4.2.3 Demonstration

(video documentation relevant to this stage include files D and E in Code 2023)

Tammy said about my demonstration: “I really liked watching you demonstrate it. Maybe I’m a – I like to get things right. I don’t like being ...it’s not about being a perfectionist, it’s more about that reflection of the other person seeing you get it wrong. So, for me watching you demonstrate and seeing your body angles and the mechanics of it all was really helpful. And then from having seen your body...it’s not about the muscles, I understood that because I’d seen you doing it well, so then when we were feeling into it, although I wanted to use my muscles, I was able to then have that image in my head of how your body looked…” An interesting contrast to Tammy’s reflection was provided by Val: “Whereas for me, I feel it’s much more likely for me to go wrong if I’ve seen how I should do it. Whereas if I haven’t seen how I should do it, it’s like ‘well let’s just have a go – and there’s no getting it wrong, it’s all about finding that way’. Oh ok, it’s not like that, it’s like this. Whereas if someone’s told me and I do it wrong, I obviously didn’t listen, I’ve done it wrong.”

Figure 19

4.2.4 Forming groups

Paul reflected on his group-forming process as being quite easy going. He contrasted this with other groups he observed which were very task focussed, some very quickly getting to work with the fire-lighting and he describes them as being “on it”, “frenetic”, and quickly engaged. In contrast Paul described the attitude in his group as knowing that “there was a task to do but really there was something much bigger than the task” and that an aspect of this (which is apparent throughout Paul’s reflections) for Paul and his colleagues was the process of working together. They focussed on accommodating the different needs of the group members (one of whom had injured wrists) and that “it was absolutely not about whether we can get fire going” but that within the task there were “multiple tasks, multiple outcomes, multiple achievements” and that for his group lighting a fire was not as important as the “relational” dynamic that the exercise called forth.

Paul noted that “there was something about connecting very intimately with two other people, because you have to get up close and personal in that exercise” which is “one of the powerful aspects of it” …its personal and also “very coordinated” with “a lot of negotiation” involved.

Paul sums up his experience with the comment that “I felt like we really succeeded in terms of the way we related to one another…it was a delightful experience of very quickly getting to trust two other people I didn’t know and getting very comfortable with them”.

Val, Tammy, and Abe provided some pertinent reflections on how it is to work in groups in the kindling process (in constellations unique to that task and context) which enabled them to adopt different roles than they have in their respective educational contexts. Val – for instance – is a leader in a school initiative but found herself, in the kindling process, taking a 'letting go' approach in her group. She reflected that "in the context of this moment…I needed to go 'I'll just sit back and let it happen. You guys jump in". This is a reflection in a very particular moment in time in the context of this individual's stance at that time and is not necessarily indicative of how the task is approached by individuals who are in leadership roles.

Figure 20

Paul observed (an Associate Professor in leadership and management at a UK university) that the kindling process led to some competitive and quite driven approaches in some groups, while for his group he appreciated the fact that the task required negotiation for "working intimately with two other people…and I remember hoping that neither of them were going to be…controlling types…who wanted to start bossing the other two of us around…and I remember being very pleased that that didn't emerge". Paul's reflections are significant, as his experience of being in a group that was not 'outcome' focussed but was very deeply invested in the group process and how this unfolded contrasts with other groups which can be very focussed indeed on the outcome (sometimes to their detriment).

4.3.5 Kindling

- **A. Reflections on practical task - general**
  (video documentation relevant to this stage include files T00 – T16 in Code 2023)

Mary reflected that the activity "felt like such a primal experience" and this made her "think of humanity and…our incredible will to survive". Impressions of what it means to "harness nature". Mary noted how "hard" the task was but that "work is meant to be hard" and that out of this hardness it is possible to "reap this incredible magic at the end of it". For Mary fire lighting was a profound "elemental experience with nature".

In a reflection that translated into a broader discussion of educational dynamics during the conversation, Sam noted the following about the practical elements of kindling "you call putting the bigger pieces on 'feeding' but the fire isn't ready to consume the piece, so it is underfed…it doesn't have the capacity to use it and heat it".
Meg reflected on the fact that when engaged in the process there was a lot that the individual and group had to work out for themselves: "you do it with a bow…ideally its perpendicular but how to make it perpendicular and how do you make sure that the other person is doing it with the same force?"
Meg also contrasted the exercise with other 'team building' exercises she experienced in a corporate environment where the goal of the exercise has often not been clear other than a rather vague 'team building' aim. Of fire-lighting she reflects "In the fire (exercise) it is very

immediate…'ok, it's not working, it's not working'…there's no case to pretend that it is working".

Greg initially submitted written feedback which was revisited at the beginning of the conversation with a question as to whether he would expand on the comment: "fire-lighting elicits fundamental explorations and discourse which has no parallel in any other professional trainings of which I've been a part".

Tammy reflected on how the practical process was supported – my approach to 'facilitating' rather than 'directing' – in the following: "So when you came over and spoke to us about the squeaking you didn't give us any answers…there was that open space, just a question; 'what have you noticed?' And that, I found quite challenging – but great. I'm not here for you to feed it to me, I'm here for me to discover it myself. So, it was challenging but I was receptive to it."

Figure 21

Val poignantly describes the sometimes-conflicting experiences of undertaking the task in a group and how individual experience (sometimes depending on the 'role' played) emerges within the group dynamic: "In honesty for me I don't really have a great sense of having achieved it. Because of the three we were in I felt like I didn't really contribute. I felt 'yeah I did my little bit'. But then you held the fire and blew on it – and you said someone else come and blow – and I don't know why I said no it's fine. I don't know what that was but anyway. I don't know if it's because I didn't realise what you meant. I thought it was 'do you want to have a go as well', rather than 'we need someone else here, come on'. For some reason I put myself on the outside at that point. And I think having three of us do it, I sort of stepped back in myself, and thought OK it doesn't work, let's get it straight ... and it was fine. You did say 'do you want to do it on your own', and I thought it was going to take me a long time… It would have been good to do that for myself. If we had all day that would be part of it. Part of me wonders on reflection, it was a really good process together, but for me personally it would have been good for me to actually do the whole thing for myself and have that sense. Or maybe do it three times and take different roles."

- **B. Reflections on social process**

  (video documentation relevant to this stage include files T00 – T16 in Code 2023)

Mary speaks of the determination in her group, and the perseverance that the members of her group demonstrated; "no one wanted to quit". Mary notes about the group she worked with; "I felt like I couldn't have asked for a better group…while I didn't feel like they were cheerleading me I felt like without them there I might not have persevered" and that this was "unspoken" and arose out of a sense of "interdependence".

Meg wrote of the significance of the group "someone can tell you what a solution is but actually making it happen…takes teamwork…working together…and in that exercise, it is a very interesting way of bonding…first of all no one knew if they were doing the right

thing…there is a bit of trust in the other and also trust in myself as well". Problem solving and openness to group initiative is clear in Meg's comments on the group process.

Meg also comments on her group experience "there was no tendency to blame, it was all...'it doesn't work let's move on'" and she reflects "how can we bring that into normal life?".

Figure 22

Erik commented, from more of an observers point of view when he assisted me with facilitating a session, "it's really fascinating to see the attitude that came out around (kindling) and seeing one group get to a coal (ember) a couple of times…not being able to get to flame and saying 'oh we've had enough, this is as far as we go'…and then seeing another group that relentlessly worked…getting four coals (embers) and finally a flame on the fourth". Drawing from Erik's reflections on the significance of the inner attitude of the members of a group, and the group as a whole, it is noteworthy when he comments "in the groups that didn't get a fire there was often an element of coolness…one of the individuals could not warm the space up enough for the whole group to get there". Erik remarked on his observations, noting that apathy, laziness, a lack of desire are inner attitudes that "have a fire connotation" – as are being passionate, having desire for making fire, being 'fired up' and how these invite the element of fire in the practical process of kindling. Any attitude that is too 'cool' or 'lacklustre' potentially "snuffs out" the actual fire in any way and this needs, according to Erik, to "be balanced out really nicely or the fire is not going to come".

Paul commented on the fact that "what worked for me was that we focused early on our relationships. We were less quick to get focussed on the task…we were probably about a third of the way through the time when, actually, the task became the focus". This meant for Paul that "the whole task work was very enjoyable because there was the containment of the relationships in the team" which were established first and worked well.

Paul contributes the following to the question 'fire lighting: so what?' – "there's so much in it…how the team forms and functions…" the fact that "you're given a task but what other tasks are there?... the task of team management…the task of leaders…the task of maintenance…getting people to understand that they are constantly working with multiple tasks, with multiple emotional, physical, and intellectual capacities…"

Abe captured a dynamic that is often described by other participants when they reflect on the social process they experienced:

> the interesting bit was diving in and working with you [Val] and (another participant) and feeling like – because I'm late I don't really know what I'm doing so although you've just explained and I think I get it, I'm assuming you're in a position of expertise, I'm coming to this ignorant as it were, so I was feeling like I was standing back a bit. I was finding it hard to dive in, but clearly we all had to pull our weight, we had to work together. I was aware of an inner resistance where I did kind of want to stand back and watch for a while. At first I was doing the foot bit, I just couldn't hold it straight, then I was feeling guilty – not quite the right word – this feeling of

> responsibility, this feeling of letting you and J down, I just couldn't hold it properly. I wasn't getting upset but like becoming a little bit anxious like – O God but what if I really can't hold this. Yeah it was quite intense. I was reflecting on the children I work with and how some of them would have really struggled with that not working and feeling responsible, and how challenging it would be – how brilliant it would be for them actually. So, I did feel that inner challenge.

Greg noted that fire lighting presents participants with the need to navigate "the social aspect, working with a group, often times with people you may not normally work with, or sometimes don't even get along with". This is of course true for how I have facilitated the process, as a collaborative undertaking. Greg goes further, however, to highlight the fact that fire-lighters – as do individuals in organisational contexts (something that Greg had in mind throughout his reflections as a leader in an educational context) are sometimes "working through extreme frustration or fear" and the kindling task "brought (this) out personally for people and got them to consciously recognize where their own hiccups are" in a social process. For Greg, then, fire-lighting was a powerful process to bring organisational dynamics to the surface and to be able to address these in a potent collaborative activity.

Figure 23

- **C. Reflections on the place and space**
  (video documentation relevant to this stage include files L, M, N, O, P, Q, R in Code 2023)

Mary reflected "we're so far removed from…having these elemental experiences with nature"
Meg reflected that "I have never spent enough time in nature".
Paul noted that "when we went outside…there's something about the way in which you introduced" the transition from classroom where the initial demonstration was given to the outdoor space "that when we went outside, I experienced the air differently and getting into the woods there was a sense of connection there because now I'm thinking differently about wood and these bits of twigs and stuff that are lying around…"
Erik contributed thoughts on the uniqueness of place from his experiences of working with kindling in different contexts. These reflections touch on subtle dimensions of place and how he sees them informing social dynamics. "On the East Coast (of the US) I can ignite a fire, I can bring something and it ignites a spark and we keep going…in California, you bring a spark and it either lights a forest fire or it goes through the tinder like we saw some of those coals (embers) do and the tinder just burns out and the coal drops out and it just kind of disappears…like a spark in the wind".
Val, Tammy and Abe reflected on their walk into the woods and to the fire-lighting location as follows: Val said "although you gave us permission to go at our own pace, I almost would

have preferred to have directions and be left to find it". Tammy strongly agreed with this reflection.
Abe – coming late to the session – had this experience and parked in a residential area where he had some interactions with locals before setting off into the woods, following directions given earlier. He said, "I enjoyed that experience of going from a housing estate, through a play park as a kind of transition, a little no-man's-land, civilisation and wild meeting…and suddenly… the wild". His comment led Tammy to follow with "that is very, very sudden, literally one step into the woods. The sounds hit you. It's very quick that transition". Abe picked up on this and responded: "Very sudden, but still a transition. An important transition, because ultimately I want to bring children into nature, for example, and myself, but also I want them to take the nature back – not quite the right phrase, but this isn't something separate. I don't want it to be like 'sometimes we take children into nature' – as a different thing – yeah, I want it to be reconnected somehow. "

4.3.6. Specific reflections on

- **A. Physical dimensions of experience**

Greg commented – in a reflection that encompasses practical dimensions and historical-cultural dimensions of the task – that "fire (making utilizes) a very basic technology, a very ancient technology for humans, and it is crucial for the development of humanity…we've developed along with fire".

Figure 24

Mary noted that "I was sweating, and my body hurt" and that a member of her group "skinned her knuckles and she was bleeding".
Paul reflected on the fact that "there is a really interesting physical element to the task" and, in a group where one member struggled physically due to previous injury, "this required attention" and care and heightened attention to how the physical task was performed.
Tammy noted that "For me that letting go was a very physical description, not an emotional one. When the sound goes right, and the smoke appears there's something in the bowing that loosens and its easier and it was really a physical experience – that sweet spot was easier than half a second before. That's what I was describing. A really physical experience, suddenly flow is different from before and then you lose it again and you do nothing different, but then it's easier again".

- **B. Emotional dimensions of experience**

(video documentation relevant to this stage include files T02, T09, T14, T16, U1 – U5 in Code 2023)

Mary speaks of 'exhilaration' and determination, that no one in her group "wanted to quit and we all wanted to persevere". Reflecting on having kindled a fire Mary says, "I felt very powerful and empowered at the end of it" and that she had a "sense of wonder at what

my hands are capable of". Mary summed up her reflections with the statement that "there's something about this transmutation that your hands can do with some kind of basic, humble ingredients whether it be sticks" or other natural materials that generates a feeling of "wonder".
Sam noted a "sense of panic when (the fire) wasn't starting up" after an ember had been introduced to a fire pit stocked with wood: "I was crouched protectively around the fire" …" but the problem was that there wasn't enough space for the air to get in".
The feeling of needing to 'protect' the fire to the point of "swatting away people's hands" trying to feed it is described in some detail.
Paul reflected the fact that at one point in his life he was very driven, "ambitious" and "controlling" in his behaviour and relations with others whereas the exercise with fire-lighting brought a much more collaborative and accommodating approach to the fore. Paul speaks of a moment during the exercise where "suddenly it feels different" and that "suddenly you feel as if the whole system is working as it should and it's easy". At other times, or when this 'flow' is lost, the group starts to use force and effort in a way that "suddenly it becomes quite hard".
Tammy speaks of the moment of coaxing the ember into flame: "So I had this whole anxiety around it… is it about to fall apart in my hands? what if it does?, why am I the one doing it ? – oh but I'll just keep going. And it suddenly went whoosh, it was like … a load of little juxtapositions of feelings one after the other". Val reflected on the way in which 'friction' is a feature of kindling in many ways – physical but also emotional, interpersonal etc.: "We've had so many conversations about friction. Emotionally. Physically about friction, within yourself, with success. We all really struggle to be OK with it. You'd rather go anywhere than this."


Figure 25

- **C. Spiritual dimensions of experience**

Mary reflected upon the activity with the phrase "it felt like alchemy" and that it resulted in the "incredible magic" of a fire being lit. She also reflected that she got a sense of "wonder" and of the "sublime from these powerful natural experiences".
Sam noted that "Eric...saw Ben as giving birth to the fire and I was kind of there supporting it…like a dulla" and Sam related this to a dream she had had the night before of seeing a tiny baby in her mother's hands and her impulse to protect it. For Sam this echoed or spoke to her experience in the kindling session where she noted that "I guess a tiny fire, a teeny tiny fire does not need a big thing, a big chunk of wood…it needs something drier…that's not going to be such a challenge". Sam went on to explore these correlations in the following:" there's the fire that is life...if you are thrown too much in life too early…it compromises you…if the fire is education then it's the consumption of knowledge, and assimilating that knowledge into who you are….there's digestion…a baby is given certain foods early on that its ready for and you work your way up to the chunky, hearty stuff…you don't give a baby a burger!".
Meg states that she found the kindling process engaging and "mysterious" because of its 'symbolic' dimensions and its place in human history - "it started *US*". Meg, trying to

articulate the way *kindling* differed from other activities she has done and the impact it had on her, reflected on the question 'fire lighting: so what?' – "it's the thing that started civilisation…its eye opening…"
Val reflected on the element of lighting a candle from the flames kindled with bows: "And the candle, although the candle goes out, that fire will go out, but part of it lives in us, and we take it back into our communities – whether literally in an oil lamp, or whether we just carry it."
Greg observed that "that there is no way to not have fire in you, even if you don't recognise it".
Although the reflections from Kaya came in the form of an email and did not arise from a 1:1 conversation, they are significant in this section, nonetheless. Kaya wrote: "I cannot accurately place the specific nation this understanding originates from, but it does correlate with my own creation story. I am Oneida. It was my brother who explained to me that we do not blow on the embers during fire lighting. He has many years' experience with fire lighting. In our creation story our Creator blew life into us, the humans. He blew into our human form and that brought us to life. I was told by my brother…that Creator is the only being that can breathe life into something. For this reason, my brother only teaches fire lighting with a fan".

Fatima also sent some reflections by email after a session had ended and participants had returned home: "Our team wasn't successful in welcoming the flame. I was the bloody knuckled one :-) and considered the wounds a badge of truth, because I *honestly* tried!! And, either you did it, or you didn't. I found the experience meditative, because a moment of lost focus caused the whole enterprise to collapse -- and that was three people's coordinated meditation on one task! I loved it. But I also know we jumped into the task without meditating on preparation or true intentions about what we really needed to learn, though in the process learned quite a bit. Our kindling, bow, spindle, and board were already waiting for us, so we didn't treat them (or maybe each other) as sacredly as we should have. And, in retrospect, it was kind of like chasing the elusive and painfully sought "Beloved"--
we yearned in our hearts and expended energy for it, and wished to keep on the quest."
Fatima sent images to accompany the following text (see Appendix F) "I know that the deeper concept of love, as part of esoteric (or the spirit of) Islam, is one that *burns* (attracts, consumes, transforms), and an individual (for true happiness) aims to be consumed with (divine) love, and true earthly love is a symbol of this. I think the halo of fire around Muhammad and Gabriel in traditional paintings symbolize the achievement or intense existence of *"Love"*, and these are my own thoughts….I think when we lost the sacred attitude toward fire, and reduced it to material terms, we also reduced love to merely a superficially material and fleeting endeavour -- one that doesn't lift our spirit to higher states where we connect to each other and the divine. It's affected our attitude toward fire, and also to each other (humanity), and both together are calamitous."

4.3.7. 'So what?' for education

Mary's reflection seems relevant here where she states that she got "a sense that there's a lot possible that I don't always think about and don't always…um…you know is just outside my grasp if I can just hold on and hang in and then reach for it".

Reflecting on the experience in terms of its social implications Mary stated that it made her think about "self-care as an educator" and preventing "burnout" and not "neglecting what's going on inside".

Sam took from the kindling experience the understanding that "if we take that…moment of protecting the fire and allowing it to grow…to protecting the fire within students…if the student is the flame...what my role is...and what I grapple with in that role…that protectiveness…I think that is a very helpful metaphor for me…that grounds me to ask 'what is this student ready for?'". For Sam the kindling session gave concrete experience, and a 'rich' or 'living' metaphor that she said would help her in her interactions with parents, colleagues and other instructors which normally remained "caught up in data…in this abstract world of numbers".

Figure 26

In a preamble to the conversation Meg reflected on the experience of having had a very formal, prescriptive education and followed the cultural expectations of getting a good education, good job, good position and encountering a crisis of meaning at one point in her life. She describes this as thinking "ok, so is this it???". She got herself a "good job" but then says, "but there was no guidance on what a good job means". She also reflected on the high suicide rates in her home country (in Asia) amongst students due to educational pressures. Meg went on to reflect further on her education that "I was taught many theories…but never got to try…to apply I would say…or to really do the hands-on experience." She reflects on how she might have been given a powerpoint on how fire-lighting is done with traditional kit but would not have been given the task of doing it. She also commented on the tendency for the teaching in her context to remain abstract and compared this to the kindling exercise as follows: in the "mainstream…wood is wood, tree is tree, a branch is a branch" whereas in the practical session a good deal of attention was placed on which wood to use from which trees and that achieving the task depended on this understanding and experience of different materials. Meg reflected that "…now I'm learning that it's not about how much I know but maybe it's how much I connect and am willing to find out…". She also commented on the wider implications of her education and how it led her to rely on "outsourcing" for what she needs for her life and gives the example of "making a table…how? which wood? Which tree shall I chop down to make this table?".

Erik reflected on how the practical process of kindling a flame informed his thinking about education as follows; "in my teaching or in my interactions with my colleagues I realize that I can bring fire really fast but I don't always do the work to lay the foundation of good tinder and a good supply of wood so that the fire will have a chance to start and be long term sustained when I start it…" he unpacks this metaphorical musing further by relating this comment to how he brings "new ideas to the group…bringing concepts that I think are beneficial in understanding where we are at with the education and how to work with students in a different way than we've been doing so far".

Abe, when he discussed the transition into the woods from a housing estate where participants parked before setting off to find the kindling space, spoke of the importance of

the urban/nature transition built into the exercise: "I don't want there to be such a distinction between the outdoor classroom where we do great things that connect us with nature and everything else, and then the formal learning we do in the classroom. I want to bring the gestures of what we're doing here (with fire-lighting) – things like teamwork, having to work together to find our way, to make mistakes…for me, education is about the reconnection between each other, and nature, and all those things." Tammy reflects on the kindling process that "It consolidates that understanding around friction, and challenge, and failure and how powerful they can be. If we got that ember so quickly at the beginning, if that had gone in the nest, my day would have been a completely different experience. So, the fact it went out and we had to try again and again and again was far more powerful for me. In my practice just knowing, just not even having faith, it's allowing that experience for the children and not being too worried about how it's going to make them feel. It's going to make them feel all kinds of things – and that's OK and that's good. That's what we want. To have all those feelings. Even though culturally it's expressed in a parenting style of trying to remove friction from children's experiences."

In one of the few reflections on what it meant to light a candle from the fire kindled with fire-bows, and to then carry it back to an indoor space with a fireplace, Greg noted the following (which is at one and the same time a practical, emotional, contextual, and spiritual reflection on how I facilitate the kindling task);

> I have this mental picture of when we were at the college and we worked in that group…and we lit the candle…we lit the fire that was outside and then we took the candle…I was taking the candle back to the instruction area to the hearth to light the fire inside and the wind was blowing and I had my jacket…and I had to pull it forward and I was cradling (the lit candle) inside my jacket and it was dripping all down the side of my jacket and down the side of my hand and I had this…just this…deep need to make sure this fire got to be in (the hearth)…and the mental image of me cradling this fire in my torso, like my gut…it pops up for me pretty regularly, even if I'm not thinking about it…and I'll feel like 'this is a flame that I need to create…and make sure it's stoked". That moment comes up for me pretty frequently…I'd be surprised if that ever goes away…it was a very powerful moment for me.

A final reflection to re-consider (it is previously noted in chapter 2) at the close of these participant reflections on kindling is of particular significance because it invites the comments considered above to be taken as the basis for both specific reflections on the affordances of including fire lighting in educational contexts *and* for how they lead they lead from reflections on kindler's experience of fire-craft to deliberations of educational purpose more broadly. This is the comment made by a participant in a kindling session held in Ontario that, based on her experiences of the whole fire-lighting process, "I want to teach math like fire lighting". In the next chapter, I will turn my focus more directly to what is alluded to in this reflection (as well as in so many of the previous contributions from kindlers): questions of educational purpose and how kindling has featured *in* educational contexts and *in relation to* educational aims as these are articulated by authors and educators writing from their own experience and perspectives. The reflections noted in this chapter - 'surfacings' from fire talks that contribute 2nd person perspectives to this study of kindling - will be discussed again in Chapters Six, Seven, and Eight.

Chapter Five

Figure 27

Lighting a literal fire…genuinely lights a metaphorical fire in the learner, providing a 'peak experience' of relationality and meaning.

Fenton, Playdon & Price, 2020:11

5.1 Introduction to Chapter 5

In image-form, the potter and poet M.C. Richards (1989:5) describes how her thoughts on education and human development grew out of her work as a potter: "This book is like a bush; it grows from a single root, many branches, many leaves and twigs, but all the same plant". This thesis is akin to Richard's book – different branches grow out of the root of the activity of *kindling* toward a sense for its potential contribution to a variety of different educational questions and concerns.

The branches that I have traced up to this point are the following.

The first branch (articulated from a 1st person perspective in Chapter Two) grew out of my encounters with fire-craft and it consists of accounts of how kindling came to feature prominently in my pedagogical praxis. The second branch emerged by gathering reflections and insights from kindlers after fire-lighting sessions (Chapter Four). These 2nd person perspectives were recorded through 'fire-talks' or dynamic interviews. Reflections from kindlers considered in Chapter Four surfaced a timeless concern that educators have grappled with for centuries (Noddings 2015) and that is the question: what is education for? I noted (on page 14) that I have come to realize that this question is also one that has been present for me for many years, and that facilitating kindling sessions with adults is one way in which I pose this question and seek to shed light on this most important pillar of educational philosophy.

This chapter, the third branch, emerges from my sense that a natural progression from the previous 'surfacings' recorded above would be to gather 3rd person perspectives on how fire-lighting features in educational domains. This shift of attention to 3rd person perspectives does not constitute a move away from the experiential and reflective approaches taken in Chapters Two and Four to determine, for instance, theoretical positions on kindling that are more 'objective', 'valid' or 'strong'. Third person perspectives are engaged with at this point in these deliberations because they help *situate* my kindling praxis in relation to other educational contexts and discussions wherein fire-lighting takes a prominent place. This chapter also addresses a couple of confusions that may arise from my 'teacherly action' of including fire-craft in courses for adult learners and teachers. I briefly allude to these possible confusions in the concluding paragraphs of Chapter Two:

> *It might be assumed... that this thesis is based on taking kindling metaphors literally and testing them out in practice. But this is not the origins nor the intention of this study. There is no predominance of either metaphor or making here but – hopefully – a mutual illumination of both.*

In the passages that follow, a step toward the 'mutual illumination' referred to above is undertaken through an evaluation of literature discussing 1) kindling ***in*** education – i.e. where the practical task of fire-lighting is included in educational settings and approaches and

2) kindling *in reference to* education which I will review on the basis of the metaphor 'lighting fires vs filling pails'. I see this as an important stepping-stone towards evaluating how kindling might contribute to questions of educational philosophy, praxis, and purpose in broader terms. This chapter shares some elements and aims of literature reviews which are central to most research enquiries of this kind, although it also differs from these in some significant ways. This evaluation of literature restricts itself to a tight focus on *kindling* either as a practical activity used by pedagogues in specific educational contexts or as a metaphor used to discuss educational aims and objectives. I treat the literature discussed in this chapter as more 'findings' that contribute to the preparations for a deeper analysis and discussion of all that has been gathered in this and the previous chapters, which will be the focus of Chapters Six and Seven.

5.2 Considering fire-lighting in education

Discussions of how lighting fires or fire-craft features *in* educational initiatives can be found in literature addressing bushcraft, forest schools, and survival skills. In terms of academic, peer-reviewed texts, there is a lack of literature from most of these realms, with the greatest number of sources arising from the bushcraft and forest school contexts. I will begin this section by considering contributions from pedagogues writing about bushcraft.

5.2.1 Previous research on the use of fire lighting in bushcraft education

Fire-lighting using traditional tools and 'ancestral' methods is discussed by bushcraft educators as a 'core activity' in their teaching (Fenton, Playdon & Prince 2021). Authors writing about the place of fire-lighting in education tend to discuss it through three primary lenses. They discuss fire-lighting in terms of its *pedagogical aims and benefits*. Some academic literature exists for this (Fenton, Playdon & Prince 2021, Fenton 2016, De Bruycker 2015, Henderson & Potter 2001, 2004). Other educators focus their attention on the *practical steps* involved in making the necessary tools and sourcing the appropriate materials for lighting fires, i.e. they describe the requisite techniques for being successful in the task, but they give little attention to how these aspects of kindling relate to educational concerns in broader terms. Most of these descriptions are found in grey literature and a good deal of that online. A limited number of educators provide reflections from firelighters on *what kindlers have learned/experienced through the kindling process* (what might be called 'fruits' or affordances). These can be found in both academic and grey literature, although it is very limited.

Fenton, Playdon & Prince (2021) contextualize fire-lighting in bushcraft education by first locating contemporary bushcraft practices in relation to its origins. They situate these in the European colonization of North America. From this perspective, European colonizers arriving in North America needed to develop abilities to "move through or live with minimal resources in remote natural landscapes" (2021:2). This need to develop the skills to live – or perhaps 'survive' – in contexts remote from modern conveniences still stands behind many contemporary initiatives that teach bushcraft (and fire-lighting) today, even when those who

attend these courses are often dwellers in urban, technologically sophisticated, and industrialized societies. These early roots of bushcraft education informed the development of the 'School for Colonial Crafts' and the Scouting and Woodcraft initiatives (Fenton, Playdon & Prince 2021). Scouting arose from a repurposing of "woodcraft, scouting and exploring knowledge from militaristic colonial frontier practices for reconnaissance and intelligence gathering, into a peace-time practice for rehabilitating, invigorating and educating youth" (ibid, 5). Some of the objectives of these early bushcraft initiatives included character building, the development of athleticism, independence, resourcefulness, and other qualities essential for the cultivation of 'good citizens' (ibid, 6). These socially oriented objectives are coupled – particularly in contemporary bushcraft pedagogies – with cultivating environmental and ecological sensitivities:

> …its key characteristics are skilled practice rooted in explicit ethical values, supporting an individually experienced connection with natural landscapes; practice as a personal transformative experience, arising from an intersubjective, triadic relationship between practitioner, craft engagement, and the material affordances in the landscape; and the idea of journeying through nature, an intention to travel through different ecologies which requires constant adaptability to them. (Fenton, Playdon & Prince 2021:7)

These broad aims and 'affordances' of bushcraft evidently provide the meta-context for including fire-lighting in bushcraft education. Academic literature produced by bushcraft educators largely supports this proposal. They indicate that fire-lighting in a bushcraft context requires a specific and contextualized knowledge of materials – suitable wood for the fire-bow components, for tinder, and for maintaining a flame when kindled – it thus can be said to engage the kindler 'materially' in the world (Fenton, Playdon & Prince 2021, Fenton 2016, Cuthbertson, Socha & Potter 2004). Fire-craft takes place in a specific context and sensitizes participants to that context – it helps 'situate' the fire-lighter (De Bruycker 2015). Fire-lighting is described as 'reconnecting' individuals to the natural world through sensorial engagement and embodied learning (De Bruycker 2015, Louv 2005, Fenton 2016). For bushcraft educators, activities such as kindling arise from a practical, pragmatic and 'necessity driven' rationale (the need to be able to keep warm, cook, create light and a central hearth as gathering space) and it contributes to learners' orientation in the 'lifeworld' (De Bruycker 2015). Kindling requires mastery through repeated practice and thus can foster resilience and stamina (Fenton, Playdon & Prince 2021, Fenton 2016) and it cannot be learned through inherited knowledge or by legacy but must be mastered through personal engagement (Ingold 2011). Ellen and Fischer (2013) note that learning to light fires results in tacit knowledge and a knowledge of the 'essence' of the process and not merely the rules of the process. Finally, De Bruycker (2015:8) notes that bushcraft (including fire-lighting) builds confidence for "living and thriving in a natural environment" and it "also brings a quality of 'rites of passage' toward adulthood" (ibid, 14, also discussed in Fenton 2016 after Seton 1904).

I will return to discuss these reasons educators give for including fire-lighting in educational contexts in Chapter Six as there are many correspondences between the bushcraft

literature and reflections from my own encounters with fire, with fire-lighting, and with the reflections noted in the fire-talks recorded in Chapter Four. Most authors who discuss rationales for including fire-lighting in a pedagogical approach such as bushcraft describe that, while it is clearly situated in the development of practical skills, one of its core aims is to foster a "purposeful relationship with the natural world" (Fenton, Playdon & Prince 2021:7).

5.2.2 The practical steps involved in fire-lighting

Descriptions of the practical steps involved in fire-craft are numerous. Many of these can be found in grey literature, and the web is a rich source for these. Examples can be found in the work of Kirtley (for instance specific postings in 2011, 2014, 2015, 2019), through Wildway Bushcraft (online). These are just a small selection of the numerous sites that can be consulted on the practicalities of fire-craft, which is a testament to the ever-increasing interest in the process. Mears must be mentioned in this list as one of the main popularizers and teachers of bushcraft in recent years (2003) and many teachers of friction fire-lighting today were influenced, at one point or other, by his work. In academic sources, Fenton (a student of Mears who has become a leading bushcraft educator today) provides significant detail about the procedural steps involved in the kindling process in her PhD thesis (2016:190-193). An example of how the practical steps involved in fire-lighting are described by Fenton *et al* in the following passage:

> Using a bow drill begins with knowing which trees yield appropriate wood for making a set of firesticks, being able to identify them in all seasons, knowing the habitats they prefer, and the landscapes where they are likely to occur. An appropriate tree must provide both dry wood and green wood for different components of the firestick set and each part has to be of the right hardness. A similar detailed knowledge is required to source and craft the cordage for the bow, and to collect the tinder that will make the ember, as well as firewood of different thicknesses and kinds. Each part of the firestick set has to be accurately crafted to the right shape and size and then an appropriate location for building the fire must be determined. All of these steps are crucial, and success depends on a sophisticated experience and the willingness to make a knowledgeable relationship with the landscape (Fenton, Playdon & Prince 2021).

I will return to discuss the emphasis given in this passage to proper *preparation* in section 6.6.1 for it is as significant and fundamental in a consideration of *education-as-kindling* as it is in this passage discussing fire lighting <u>in</u> education.

From a reading of the literature, it is apparent that there are some differences between the approaches taken by different fire lighters in their choice of woods, shaping of bow, spindle, heath board etc. - some 'twists' and innovations in the basic technique - but what is common to them all is the basic 'kit' or tools they use (see page 28 and Appendix A).

A detailed analysis of different literature on the equipment and practicalities of fire-lighting will, however, not be included at this point. This would be an important step to take if understanding the specifics of the practical process from a technical perspective was the

core focus of this study. However, as the practicalities of fire-lighting are to be studied as stepping off points toward a broader set of educational concerns, this review will not pursue in any detail an examination of the various tweaks and refinements that can be made to the essentials of fire-lighting using bow drills.

5.2.3 What fire-lighters say about the process in their post-kindling reflections

De Bruycker (2015) proposes that bushcraft/outdoor education (and it can be inferred from his discussion that these also apply to fire making) supports the development of:

- Mental and emotional wellbeing
- Physical health and wellbeing
- Social competencies
- Talents and interest
- Positive values and attitudes
- Creativity and imagination
- Knowledge and understanding

Are these proposals substantiated in any way by fire lighters themselves? Kindlers in sessions led by Fenton (2016) confirm many of these points in their responses to her research questions. They speak of the process supporting (and requiring) the development of tenacity, patience, persistence, endurance – while it also evoked frustration, anger and (for those who succeeded) relief (Fenton 2016). Watson (cited in Fenton 2016) notes that friction fire-lighting can result in increased confidence as well as "self-reliance, education, transformation and landscape literacy" (ibid, 202). The numerous descriptions of what fire lighters experienced while attempting the task in Fenton (2016) are some of the most detailed and systematically accessed responses to what the process 'affords' in terms of learning opportunities. Fenton's research is, also, one of the few systematic studies of the experience of kindling, particularly in an academic context (hence the reason why Fenton's research has featured so prominently in this engagement with literature on kindling).

One particularly significant set of insights that arise from Fenton's research is the following: "On the evaluation of a weekend course I gave a couple of years ago one of the students said, 'Starting a fire is a sacrament'. I guess it is. (Baugh, cited in Wescott 1999, p. 33)". A sense for the 'sacred', 'alchemical', 'spiritual', 'magical' aspects to fire lit in this way emerge from a number of other reflections gathered by Fenton (2016) in her thesis. I will return to discuss these reflections at greater length in Chapter Six, for they are congruent with many reflections I have heard over the years, and which featured in the fire-talks discussed in Chapter Four. They also quite poignantly point to potential articulations of educational purpose that are not frequently discussed today.

De Bruycker makes some references to tasks such as fire-lighting as a kind of 'rite of passage'. These aspects of fire are also discussed by the author of the Sacred Hearth Friction Fire website though these are generally described from the author's own first-person point of view and the experiences of kindlers do not feature strongly in these posts. Despite the fact

that experiences such as those noted above are articulated by a number of participants in fire lighting sessions – and they concur very much with my own experiences of facilitating fire-lighting workshops – very little in-depth discussion about these experiences is undertaken in literature about kindling in education. These reflections, perhaps more than many of those gathered by Fenton and others, point to the way in which fire-lighting as a practical task can immerse participants in a set of processes and experiences that 'spark' changes and even challenges to "epistemological, ontological, emotional and social assumptions" (Martinez, Sauleda, & Huber 2001) held by participants. This highly significant, and under-examined aspect of fire-lighting will be considered in greater depth in the pages that follow.

5.2.4 Fire-lighting in forest schools

Does fire-lighting feature in literature arising from contexts other than bushcraft? Attention is given to it in literature produced by forest school educators such as Harris (2017), Smith, Dunhill & Scott (2017), O'Brien & Murray (2007), Waite & Goodenough (2018), Waite, Bølling & Bentsen (2016), Leather (2018). There are, however, some important considerations to keep in mind when reviewing fire-lighting in a forest school context.

Firstly, as is the case with attempts to find systematic discussions of fire-lighting in bushcraft education, it is rare to find a forest school educator giving attention to this task in isolation from other curricular activities or discussions of forest school pedagogy in broader terms.

Secondly, forest schools tend to be primary schools, or in some cases they cater to middle-school children or teens. My enquiry into kindling's potential contribution to educational philosophy, practice, and purpose – though it is anticipated that it will have relevance to education for a range of ages - arises primarily from work with adults. An examination of kindling in forest school contexts is therefore somewhat tangential to this study but will be undertaken nonetheless for some of the features that arise from fire-craft discussed in this pedagogical domain.

Fire lighting is described as "ubiquitous" (along with marshmallow cooking!) in Morgan (2018) although it is not explicitly stated as to why it should be deemed so. Waite & Goodenough (2018) make mention of fire-lighting in a section of their article titled 'Supported Risks Towards Competence'. They write that "practical skills and games were the most common context for achieving a sense of competency and having others perceive their proficiency. One of the CBC researchers shared such a situation involving Tim. "Tim wants everyone to see that he has lit birch bark successfully, after lighting the cotton wool very quickly. He lights it again and again." (2018:34). There is not enough detail, however, as to what means of fire-lighting is being referred to in this reference and, through a reading of other literature on Forest Schools, it may be reasonably assumed that this is using friction steel and not with a fire-bow. This is conjecture, however, and for lack of detail the main transferable insight from this passage is the author's attention to the place of 'risk' in Forest

Schools and how repeated navigation of these risks can develop skills and competence. Fire lighting is mentioned in other sections of this article in connection to the fire circle as a site "of pleasure and/or development, via material, social and cultural novelty" (Ibid, p38). A quote from a Forest School researcher cited in Waite & Goodenough reflected that "Eddie chose to make his own fire each week, away from the group fire" and she interpreted this observed behaviour in terms of the "chance to both do things, and experience oneself, *differently*". There emerges, from this example, a feature of fire-lighting that will be discussed at greater length in Chapter Six but which speaks of its contribution to developing a sense of agency, autonomy, and individuation.

In her article *The nature of learning at forest school: Practitioners' perspectives,* Harris (2017) provides a well-balanced discussion of theoretical frameworks that inform outdoor education and gives attention to reflections from forest school leaders and practitioners. She also highlights (after Waite 2011) the 'tension' that can exist, particularly in a UK context, "between meeting the demands of the national curriculum (pursuing excellence) and activities which are seen as enriching the learning experience (ensuring enjoyment), with school trips and non-core curricular activities often seen as contributing more to the latter, and less to the former" (p275). This comment is relevant in the context of this thesis as there is always a challenge of 'positioning' when activities such as fire-lighting are discussed, and it can all too easily be imagined that for many educators, inspectors and advocates of outcome-based pedagogies fire-lighting might be an engaging, socially enjoyable activity but (surely?) one lacking in its contribution to core curricular learning.

Passing mention is made in Harris (2017) of fire-lighting and where it is related to themes of fostering heathy relationships to 'risk' and to 'responsibility' (p280, 287), to 'skills' and 'tool use' (p281). No mention is made of what specific methods of fire-lighting are being referred to.

Barrable & Arvanitis (2019) mention fire-lighting in their article which critically considers forest schools in relation to the Self Determination Theory (Deci & Ryan 1997, 2012). Many significant insights are discussed in this article, as it also considers a number of learning theories and their reflection in Forest School pedagogy – though it is not explicit or detailed in its focus on fire-craft. Discussed in a section titled 'optimal challenge', fire lighting is described in Barrable & Arvanitis (2019) as an 'inherently risky activity' that offers many opportunities for learning when facilitated as a progressive task supervised by Forest School practitioners. It is implied that activities such as fire-lighting are "linked to gradually increasing levels of skill, with scaffolding, aimed at the development of both fine motor skills, in the case of tool use, and gross motor skills" (ibid). This article contributes many significant insights from its analysis of the Self Determination Theory to outdoor and embodied learning but how these relate to the specifics of kindling are not explicitly addressed and thus can only be inferred.

Overall, there are broad indications as to why educators might include fire-lighting in forest school education in the literature, but due to the lack of specificity in these (and to the

fact that the kindling methods discussed are almost certainly not those addressed in this study) there is limited value in pursuing an examination of this literature further. Forest school educators have contributed significantly to academic discussions of the way in which their pedagogical approach is situated in terms of educational theory (including evaluations of it in relation to the work of Dewey, Vygotsky, Kolb, Steiner, and Petzalozzi as – for instance - in Harris 2017) but as these discussions are specifically concerned with understanding the place that fire-lighting takes in forest schools I will not pursue them further here.

5.2.4 Outdoor education & Survival skills

Two areas in which it might be assumed that meaningful insight can be obtained for why educators include kindling in their educational approaches are those of outdoor education and schooling in survival skills. Literature arising from these educational domains tends to focus on the pragmatics of developing the practical skills, knowledge of materials and abilities required to succeed in fire-lighting in different contexts to meet primary needs (warmth, light, heat for cooking) in outdoor conditions. These are valid reasons for including kindling in education, but they are not why I have chosen to include them in my own pedagogical processes. These contexts provide a firm foundation in the pragmatics of kindling and link the skills and knowledge required to be successful in fire-craft to the broad aims of being able to travel or 'survive' in minimalist, outdoor conditions. A passage that is relevant to this study which arises from literature on outdoor education is the following (where the reference to 'these skills' is linked to fire-lighting);

> The learning and practice of these skills can foster a greater understanding for science and history through the requirement of a more direct relationship with the technology involved. As well, critical intra-personal and inter-personal skills--so important to the foundations and goals of outdoor education--can be enhanced through those skills which are inherently community oriented or which re-focus experiential attention to the more temporally and spatially immediate. (Cuthberson, Socha & Potter 2007:136)

I will return to discuss studies such as this further in chapter six of this thesis, but because pedagogical dimensions are touched on in these studies which primarily focus on discussion of fire-lighting in education the following summary will suffice for the present purposes of this chapter.

5.2.5 A summary of considerations for how fire-lighting is included in educational contexts

Outdoor education and survival skills education tend to discuss fire-lighting from the following points of view (many of which have been noted in literature addressing bushcraft education and forest school pedagogy);

- Knowledge of natural materials and their suitability for fire-craft
- Connection to nature – reciprocity with natural processes and human development – attachment to place (I will discuss this point further in section 6.1.1)
- Skill development – tool making and tool use

- Skill development – gross motor and fine motor skill development
- 'Survival' or life-skill development – capacities to provide warmth, fire for cooking
- Connection to historical and cultural development of 'ancestral' and modern tools and techniques
- Competence with low-tech means of meeting basic life needs
- Deepening of scientific knowledge
- Self-authorship

These 'affordances' that arise from bringing fire-lighting into education are all highly significant and of great importance particularly when topics such as Nature Deficit Disorder (Louv 2005) and the de-skilling of society are discussed. I have introduced fire-lighting into a range of educational contexts with the knowledge that participants can greatly benefit in the ways outlined above. However, they are – in my educational praxis and in the context of this enquiry – elements of a scaffold but not the whole scaffold. I do not consider myself a 'bushcraft' educator and I am not a Forest Schools practitioner. Though the benefits and learning opportunities afforded by fire-lighting as discussed in this section are ones that I concur with and see as potent reasons for including kindling *in* education for learners of all ages, my reasons for including it in educational contexts are because of additional dimensions that I find the kindling process touches upon. I will elaborate on this reflection further once some attention has been given to a review of literature addressing kindling *in reference to* education.

5.3 Section Two: Considering kindling and fire-lighting in reference to education

This second section of this chapter focuses on texts wherein the metaphor 'kindling vs. filling' is used by the author (as, for instance, in Biesta 2016, Emerson & Mansvelt 2015, Wu 2002, Bell 2016, Fenton, Playdon & Prince 2021). Literature is evaluated in this category if the kindling metaphor is used in a title, theoretical discussion, or in reference to educational aims and purposes, and it is selected even if it is not itself the main focus of critical analysis in the text selected - which applies, in fact, in the vast majority of cases.

5.3.1. Kindling metaphors: initial considerations

The oft-used metaphor which describes education as a process of kindling flames rather than one of filling pails has frequently been ascribed to William Butler Yeats (Emerson & Mansvelt 2015, Husic 2014, Biesta 2016, O'Donovan 2010), less often to Socrates or to Plato, and oddly only infrequently to Plutarch. I say 'oddly' because this metaphor clearly features in Plutarch's *Moralia*. It appears in a section of that work titled 'On Listening to Lectures' (Plutarch 1928). This is in itself noteworthy, because modern usages of the metaphor usually appear in literature that tends to be critical of lecture-based, didactic pedagogical approaches (Bell 2016, Wu 2002).

Freire notably referred to approaches to education that would fit the 'pail filling' designation as 'banking models' of education (Freire 1996). A 'transmission model of

education' (Nola & Irzik 2005) is another term used for educational models which could be called 'pail filling' approaches. These tend to be teacher-centric pedagogies, with students in a mostly passive role as receivers and memorizers or 'consumers' (Emerson & Mansvelt 2015) of facts or information – a situation that is all too often the case in educational contexts which emphasize high-stakes testing and short-term accumulation of test-oriented knowledge (Wu 2002, Zhao 2012, 2015). Fenton, Playdon & Prince (2021) provide a detailed critique of these 'pail filling' approaches in their discussion of bushcraft as radical pedagogy, and they provide a stimulating discussion of how fire-lighting features in pedagogies that challenge these consumerist models. They take steps towards addressing thereby how kindling metaphors have been brought to bear on questions of educational purpose, although (as I discuss below) these are in essence an opening to much more in-depth discussions.

A number of critics of 'banking' models of teaching and learning employ the *kindling* metaphor in their work, even when explicit links between their use of the metaphor and methodological praxis are not always clear. This leads to instances where the metaphor 'kindling vs. filling' comes across as being convenient, or attention grabbing but which, ultimately, is really only embellishment or coloration rather than a contribution of consequence to educational discourse. These uses of the metaphor lead me to propose that it has increasingly become an 'empty signifier' (Laclau 1996) and as such the kindling metaphor invites more attention than it tends to receive if it is to contribute meaningfully to discussions of educational aims and purposes. When Husic (2014) writes in her article, referencing 'lighting fires vs filling pails', that "good educators really 'get' the first half of this quote from Yeats" I am left wondering: do they? How do we know that they 'get it' and what, in their writings and use of the metaphor, indicates that they do? What, in short, do they think it *means*? In the following section I turn to literature wherein the kindling metaphor is used to see in what ways educators include it in their writing, how they understand it and how 'full' or 'empty' it is when meaningful articulations of educational purpose are sought for.

5.3.2 Kindling vs Filling in the research literature

Biesta (2016) uses the kindling metaphor in the prologue to his very thought-provoking study *The Beautiful Risk of Education.* He does not explicitly discuss his reasons for placing it in the opening passages of this text, but his decision to do so can be gleaned from a close reading of his book. These will be discussed at greater length in due course. Suffice it to say that Biesta's book can be read – virtually from cover to cover – as a critique of 'pail filling' approaches to education where these have been defined above as 'banking' or 'transmission' and 'consumerist' models. He does this through a critical enquiry into *who* it is that is engaged in the educational process, who it is that is *educating,* and who it is being *educated*. Biesta's use of the kindling metaphor is followed by the statement; "education is not an interaction between robots but an encounter between human beings…students are not to be seen as objects to be molded but as subjects of action and responsibility"[20] (2013:1).

Evidently, for Biesta there is something essential in the kindling metaphor that touches on questions of agency – of human being*ness* – that is so central to any educational

process. Biesta's many publications have contributed significantly to the questions being posed in this thesis – but as he doesn't explicitly analyze the kindling metaphor, his work will be discussed in other sections of this text.

Emerson & Mansvelt (2015) use the phrase 'buckets and fires' in the title of their article exploring New Zealand tertiary teacher's use of metaphors in their teaching but they do not actually discuss the 'kindling' metaphor in detail. They do, however, provide a very insightful survey and discussion of the role of metaphors in shaping educational approaches. They state that "metaphors are not reflective of the teaching relation but constitutive of it" (2015:1873). This analysis of the role of metaphor in education is highly relevant to this study, as it indicates the potential for "beliefs based on underlying conceptual metaphors" (ibid, 1873) to be analyzed, made explicit (particularly if they were previously unconscious or 'hidden') and changed where this is deemed necessary or appropriate. Metaphors, from this perspective, not only inform – and reveal – "epistemological, ontological, emotional and social assumptions" (Martinez, Sauleda, & Huber 2001), they can contribute to a restructuring of these. The word 'can' is significant here, as metaphors can have multiple interpretations (Emerson & Mansvelt 2015, Gurney 1995) – they are not uni-dimensional but require interpretation and explication (hence, when they lack these, they can become *empty signifiers*).

'Buckets and Fires: metaphors in tertiary teaching' is a penetrating critique of consumerist metaphors of education, which the authors note, are so common today in higher education institutions around the globe that they have become "hegemonic" (Emerson & Mansvelt 2015:1875) and highly resistant to critique. This publication's emphasis on understanding how teachers in New Zealand relate to consumerist metaphors could, however, be more appropriately titled 'Consumer metaphors in tertiary teaching' – it is only in the concluding lines of the article that reference to the kindling metaphor is explicitly made. This article, although very limited in doing for kindling metaphors what it does to critically evaluate consumerist metaphors, nonetheless provides a valuable resource for its focus on the role metaphors play in 'constituting' educational approaches. I will also return to this discussion in latter sections of this thesis.

Wu's article '*Filling the Pot or Lighting the Fire? Cultural Variations in Conceptions of Pedagogy*' (2002) provides an intriguing reflective account of different cultural variations in education. Her Taiwanese background and early education present a strong contrast to her subsequent experience at an English 'ancient university'. The former is clearly described in 'pot filling' terms, the Taiwanese approach being based on a pedagogy wherein "the teacher 'fills the pot' as if each student was an empty vessel, in the hope that once full it would somehow spontaneously start boiling" (2002:5). Her interpretation of 'lighting the fire' is illustrative – I would argue – of how the *kindling* metaphor deserves a more critical and considered application than it is often given. Wu's use of the phrase is, in my view, overly convenient. For Wu, fire lighting emerges from the (stereotyped) 'liberal pedagogue's' character as much as from their teaching methods.

> The teacher is empathetic, 'one of the boys' (or girls), informal, eliciting, Socratic, wearing jeans, quoting Rousseau, Foucault. The teacher's aim is to produce original rebellious and iconoclastic inventive unpredictable enthusiasts. Scorning to fill the pot, instead one aims to 'light the fire'. (2002:5)

Wu's use of the kindling metaphor is at root a consideration of the contrast between pedagogical approaches that focus on structure, rigour, discipline, and close supervision (which she designates as 'filling') and those that give (or leave students to discover) a high degree of independence, autonomy, responsibility for self-discipline and less rigid supervision (in her view: 'firing'). It contrasts rote learning (as does Husic 2014) with critical thinking and independent enquiry. Wu's example is engaging for its first-person description of her experiences of cultural variations in education, but her use of the kindling metaphor lacks substance. This observation arises from a close reading of Wu's article, wherein references to the kindling metaphor are eventually dropped and not returned to in either the paper's discussion or conclusion. Wu's reflective analysis of her own educational experiences leads her to propose that "there are two poles of pedagogy, and most teachers fall at some point between them and could even be ranked in terms of their scores along a spectrum" (2002:5). I will return to this proposal for further discussion – as it offers some food for thought - but with regards to kindling metaphors, *Filling the Pot or Lighting the Fire?* contributes to those instances where the metaphor is essentially being used with a broad brushstroke to contrast banking/consumer models of education with more open, independent models.

Romano's advice to science teachers just starting out in the profession ('Lighting the fire of enthusiasm' 2012) falls into the same category as Wu's, in my opinion. Though he gives pertinent advice for how to make science (chemistry and biology) engaging, his use of the kindling metaphor amounts to equating fire lighting to 'sparking interest' and enthusiasm. These are, of course worthy educational aims, and valid – but I propose that much more can be gleaned for science teachers for their methods from a deeper, more considered contemplation of the fire-lighting metaphor, particularly where it comes to bringing critical awareness to epistemological and ontological dimensions of science education.

The theme of motivation is linked to metaphors of lighting fires in 'Education Is Not Filling a Bucket but Lighting a Fire: Self-Determination Theory and Motivation in Medical Students' (Kursurkar & Cate 2013). Apart from reference to Plutarch's metaphor in the title, there is no further analysis of how it actually relates to Self-Determination Theory (SDT). An opportunity seems to be missed here, as a good deal of research and scholarly attention has been given to the SDT in education and the possibility of a deeper, 'mutual illumination' of both kindling metaphors and the Self Determination Theory could be undertaken in light of the extensive body of research arising from considerations of motivation in education.

Husic (2014) provides a contribution to critically evaluating how 'fire-lighting' metaphors might inform educational approaches in her article *What fires should educators light?* Her article addresses questions arising out of a 'liberal education' context and it

contains a critical reflection of her own path through the natural sciences, research, advocacy, and activism with regards to climate change and environmental education. She writes:

> We need educated people who aren't content with simply finding a job but are still idealistic enough to want to change the world for the better. In other words, we need higher education to lead the charge in lighting fires, to be inspiring the next generation of problem solvers who will work at the front lines of these grand challenges of the twenty-first century (2014)

From this passage, and others in Husic's article, it becomes clear that she is equating lighting fires with fostering inspiration, problem solving skills, creative and critical thinking but also – in distinction to some other authors – ethical and engaged action, social responsibility, advocacy, and even informed activism. There is more 'edge' and *risk* in Husic's use of the kindling metaphor, and she captures more facets of fire which also emerged in the vignettes that comprise Chapter Two; fire is not just benign, 'playing with fire' is not to be understood – or practiced – lightly. Husic's contribution adds a refreshing depth to the kindling metaphor through its consideration of personal and social transformation which include both the destructive and creative poles of fire. She also points to why education that arises out of the 'lighting fires' half of the metaphor might meet a deal of resistance and even opposition from elements of the social field that resist change and may even be invested in maintaining the status quo. The dynamics discussed in Husic's article begin to illuminate levels of nuance and complexity in the kindling metaphor that it might well be pointing to, although I think that there are still deeper epistemological and ontological dimensions inherent in the metaphor that are not addressed in Husic's use of it.

Fenton, Playdon & Prince (2021), in their penetrating and very illuminating study of fire-lighting as 'radical pedagogy', briefly touch on the kindling metaphor in the concluding section of their article. Given the depth and degree of attention given to bushcraft in their paper, it might be expected that an equally illuminating engagement with the metaphorical meaning of kindling in education would also be presented. However, the kindling metaphor is actually given somewhat scant attention and rather (though not without significance for this study) the discussion is more attuned to the actual challenges presented in the practical task of lighting a fire with 'ancestral' tools. "Lighting a fire becomes an embodied example of bushcraft education rather than a metaphor, requiring both 'bush' and 'craft'" (Fenton, Playdon & Prince 2021:11). With their focus on 'radical pedagogy', emphasis is given to the fact that fire-craft engages the participant in the 'bush' (rather than the classroom and textbook) and 'craft' (making, creating rather than consuming) and this seemingly aligns with other ways in which the metaphor is understood by other authors. The phrase 'rather than a metaphor' is interesting, however, because it could be interpreted to mean that the material, muscle-based nature of kindling somehow is more 'substantial' then the metaphorical, but this may be reading too much into the authors choice of language. Nevertheless, a strong focus on fire-craft in Fenton, Playdon & Prince (2021) leaves a lighter touch being given to the metaphorical – apart from in the following, very significant passage; "lighting a literal fire in this way genuinely lights a metaphorical fire in the learner, providing a 'peak experience' of relationality and meaning" (ibid:11). At this crucial juncture in *Bushcraft as*

Radical Pedagogy, where 'peak experiences' attest to the emergence of a new or renewed relationality with another world or realm, the authors return their focus to the relationality that bushcraft and fire-craft establish "between practitioner and the natural world" (ibid:13). A crucial feature of the metaphorical dimensions of kindling seems to me to be omitted here, and although Fenton, Playdon & Prince have written in exemplary fashion about bushcraft and kindling (which is "fundamental to bushcraft education" (9)) their attention remains firmly fixed on mediating a "self-nature overlap"(12) and hence they do not delve deeper into the 'numinous', 'magical' and 'alchemical' experiences kindlers speak of. I think that attending to these experiences afforded by the fire-lighting process (which have also been noted in Chapter Four's Fire Talks) can also 'save' the kindling metaphor from being merely an empty signifier and give it a more meaningful place in discussions of educational purpose. I will come back to this assessment in Chapter Six, as it is one of the central contributions to a re-evaluation of educational purpose that this thesis proposes.

A summary of the literature reviewed in this section follows.

5.3.3 A Summary of Section Two

Literature in which *explicit* use of the metaphor 'lighting fires vs filling pails' is made tends to relate, associate or interpret its meaning in terms of education that fosters *motivation* (Kursurkar & Cate 2013), *interest*, *enthusiasm*, 'getting fired up about something' (Kongari 2018, Wu 2002, Peterson 2007) *curiosity* (Scarth 1992, Kongari 2018), *originality* and *inventiveness* (Wu 2002, Husac 2014), *risk taking* (Biesta 2016, Kongari 2018) *creativity* (Biesta 2016, McVeigh 2014, Peterson 2007) and/or *ethical action and social responsibility* (Husac 2014). This is not a comprehensive list, but it gives an indication of how the kindling metaphor is interpreted in relation to different inner attitudes, attributes or capacities for learning by a variety of authors. Fenton, Playdon & Prince's reference to the 'lighting fires' metaphor (2021) is perhaps the most difficult to place with reference to the above attributes as it reaches further 'down' into the actual pragmatics of fire lighting than do other texts in seeking to grasp the essence of *kindling* in education, but it also reaches 'higher' up into questions of essence – of being and becoming – than do most other texts reviewed. This publication offers, I propose, the most illuminating study of kindling as I am seeking to articulate it in this study, and it offer significant potential for critical considerations of "epistemological, ontological, emotional and social" (Martinez, Sauleda, and Huber 2001) dimensions of education when it is considered in light of the kindling metaphor. However, I say 'potential' because I don't think Fenton, Playdon, & Prince go far enough in their evaluation of kindling and it remains, ultimately, attended to thoroughly in a practical skills and bushcraft context but too lightly in its metaphorical and meta or more-than-physical dimensions.

5.3 Summary of Chapter Five

In this chapter I have critically considered literature from a range of related fields, some addressing how fire-lighting is included *in* educational contexts (in section 5.1) and others

that have employed the metaphor of 'kindling vs. filling' in their discussions (section 5.2). These sources have thrown light on key issues of this enquiry.

The metaphor of 'lighting fires vs. filling pails' is often used over-conveniently and has tended to become more of an empty signifier than a meaningful contribution to understanding educational aims, objectives, and purpose. A significant number of authors relate the kindling metaphor to inner attitudes (interest, enthusiasm, curiosity, creativity) which – though relevant – seem to come short of the fullness of meaning that the metaphor offers. In this regard, Husic (2014) makes some noteworthy contributions through a more nuanced and multi-facetted reading of the metaphor in her work. I have suggested that Fenton, Playdon & Prince (2021) provide the most significant contribution toward grasping what might be implied in the kindling metaphor when the process of fire-lighting is considered both in terms of its 'material' and 'bodily' aspects as well as in terms – as expressed in the reflections and insights of the individuals who *participate* in the process – of its more 'ritual' and 'mystical' dimensions. This perspective opens a window into how fire-lighting reaches beyond the specifics of fire-craft (kindling <u>in</u> education) toward what I will discuss in the following chapter in terms of *education-as-kindling* – a living theory for education arising out of this enquiry. Such a step is warranted, I propose, because it is not yet possible to grasp fully what might be meant when a teacher – reflecting on her experiences of lighting fires – pronounces "Fire lighting has given me an experience of how I want to teach…I want to teach math like fire lighting".

Chapter Six

Figure 28

Evermore placed in the thin borderline between stability and change, between preservation and innovation, education is undergoing unprecedented tensions. Indeed, it is a mirror of all the contradictions that strike our modern societies.

Carneiro, Looney & Vincent-Lancrin 2015

6. Introduction to Chapter Six: Analysis and Discussion of Findings

This chapter marks a turning point in this thesis. Up until now I have cast a net out to gather findings or 'surfacings' from 1st, 2nd, and 3rd person perspectives on the teacherly action I initiated some ten years ago but I have not, as yet, engaged in an in-depth analysis or interpretation of what has shown up in my tinder bag. This is the focus for the final chapters of this text.

6.1 Research Questions Restated

The questions posed at the outset of this enquiry included questions that considered kindling's contribution to my own educational philosophy and praxis. These questions were posed in section 1.2 in the following terms: Why do I find fire-craft so captivating and all-encompassing as an activity? What 'hunch' lay behind my idea of introducing the kindling task into adult education contexts? How is it that fire lighting has become such a significant activity – a touchstone – for so much of my praxis as an adult educator? I will address these questions directly in Chapter Seven, while the discussions that follow will also provide a basis for this undertaking.

A second set of questions emerged from the fact that, as well as being a feature in my own self-education, I introduced kindling as a collaborative, situated, and embodied task to adults participating in personal and professional development contexts. Undertaking this 'teacherly action' gave rise to a further set of questions: What impact does fire-lighting have on individuals who join in a kindling session? What arises for participants when fire-lighting is set as a collaborative task? And…how is it that kindling sessions regularly lead participants to reflect on questions of educational philosophy and purpose…not only *why* or *what* we do as educators but *who* it is at the heart of our educational endeavors? Insight into these questions has already emerged in Chapter Four – to an extent – though they will be considered further in this chapter.

Along with the questions revisited above, two core questions were posed in the opening chapter of this thesis – Q1 what is education for? And Q2 who is education for? I have referred to these questions as being undercurrents that have informed my life story for several decades (described in Chapter Two), and they became explicit in many of the reflections from fire-lighting reproduced in Chapter Four. An engagement with these questions also now comes to the fore.

Before I undertake an analysis of the various findings that have emerged through the first five chapters of this thesis, I will address in some greater depth why I think that questions of educational purpose have hovered around my engagement with fire-craft from the outset, why they informed my 'hunch' to include fire-lighting in adult education programs, and why they emerge now into prominence at this stage of this enquiry.

6.2 Thoughts on Educational Purpose

6.2.1 Educational purpose: personal perspectives

As previously mentioned, questions about educational purpose first surfaced in this study in Chapter Two, through the process of writing my life-story and the autobiographical approach adopted for that. From the vignettes in that chapter it is apparent that concerns with educational purpose have accompanied me throughout my formal and informal education during the past five decades (see section 2.1.2). These arose due to the fact that my progression up the educational ladder ever closer to the 'cutting edge' of contemporary science, the thresholds of a globalizing world, and the dazzling potentials of technological development was accompanied by increasing feelings of fragmentation, alienation, and disorientation. As my formal education gave way to the learning one gleans by travelling and working around the globe, my feeling that there was a growing disconnect between what we *knew* was good for people and planet and what we were actually *doing* to these only deepened and grew more pronounced.

A deep sense of meaninglessness became particularly pronounced for me in my early twenties and I – in time – came to attribute this hollowness to the fact that so many subjects and disciplines presented to me in the crucial formative years of my education were grounded in ways of knowing that essentially reduced all life on the planet to "somewhat complex arrangements of atoms" (Schumacher 2011:74) and – in terms of human ontology – to "quintessences of dust" (Shakespeare 2015), "self-contained globules of desire" (Veblen 1898) or "biochemical machines" (Desmet 2022).

Palmer (1993) ascribes the emergence of what I suggest are impoverished views of the human being such as these to an over-emphasis on ways of knowing (epistemologies) founded upon *objectification*, *abstraction*, and the *dismissal of the subjective*. Ontologically, recent descriptions of the human being as an "ape brained meat sack" (Ribeiro 2022) is an even further and more extreme example of the complexity reduction (Biesta 2020:56) and 'conceptual fragmentation' (Gidley 2016:3) that arises from epistemological approaches critiqued by Palmer. Ways of knowing rooted in reduction, abstraction, and the removal of the subjective continue, in fact, to inform much of our efforts today in disciplines as diverse as economics (Raworth 2017), medicine (Huesser 2016), agriculture (Code 2014), science (Bortoft 1996) and education (Oliver & Gershman 1989, Palmer 1993, Gidley 2012, 2016).

6.2.2 Educational purpose: global context

A second reason for giving a focus to educational purpose in this inquiry into *education-as-kindling* is the following; in this second decade of the twenty-first century we are witnessing political and social unrest in numerous countries worldwide, climate and environmental disruption globally (Bendell & Read 2021, Stibbe 2021), and a pandemic that seems to defy our attempts to address it. These complex issues raise questions about how *adequate* (Schumacher 2011) ways of knowing rooted in reduction and abstraction are for navigating the complexities of our time. Is education today, so strongly focussed on Piaget's pinnacle stage of 'formal operations' (Gidley 2016), really fit for purpose when we are

confronted with so many layers of complexity and unpredictability in social and environmental domains?

Deliberations on this question have led a variety of educators to advocate for a change not only in our educational curricula and objectives but also in our ways of knowing and being (Delors *et al.* 1996, Tawil & Cougoureux 2013, Schumacher 2011, Gidley 2016, Desmet 2022) and in 'the stories we live by' (Stibbe 2021). Desmet's view is that "the most fundamental change that we as a society have to aim for is not a change in practical terms but a change in consciousness" (2022, 148) and my own views have increasingly come to align with this proposal (Code 2014, 2019a, 2020).

6.2.3 Educational purpose: contemporary considerations

Questions and concerns about educational purpose are evident in contemporary educational literature.

Biesta (2008) notes that in much of today's educational discourse there is a significant amount of discussion about educational processes and their improvement "but very little about what such processes are supposed to bring about. There is very little explicit discussion, in other words, about what constitutes good education" (p4).

Biesta elaborates his views on the significance of attending to educational purpose in his article *What is education for? On good education, teacher judgement and education professionalism*:

> the question of (educational) purpose is (a) most fundamental one for the simple reason that if we do not know what it is we are seeking to achieve with our educational arrangements and endeavours, we cannot make any decisions about the content that is most appropriate and the kind of relationships that are most conducive. Some authors have even gone so far as to say that purpose is constitutive of education, which means that education necessarily needs a (sense of) purpose. (2015:77)

Tate (1999) suggests that the question 'what is education for?' is most likely asked and answered on a daily basis, but he also proposes that this is largely done unconsciously. Tate also suggests that this core question is inseparable from questions about "our values, about the kind of society we want ourselves to be, and about our fundamental ends and purposes as human beings" (1999:7).

Gidley, in *Postformal Education*: *A Philosophy for Complex Futures* (2016), critiques still dominant educational approaches which were established in the 19th century to meet the needs of industrializing societies, but which perpetuate today in what are very different global-society domains and conditions. She strongly advocates for "a new approach to education designed to prepare young people for global uncertainty, accelerating change and unprecedented complexity" (2016:1). Techno-fixes, which have been the solution of choice in recent centuries, will not – in Gidley's view – suffice to address the increasingly interconnected issues that are no longer merely local or regional events but unfold at a planetary scale. Educational purpose – according to Gidley – should include the cultivation of

'postformal reasoning' and the "courage, imagination and wisdom" (ibid:2) that this type of reasoning fosters for new ways of thinking, responding, and acting in complex times.

Many readers of this text might feel that questions of educational purpose have already been addressed quite satisfactorily, and even pragmatically, in (for instance) the many options that exist for individuals to learn a wide range of professional competencies. We successfully educate pilots so that they can move people around the world in increasingly sophisticated aircraft, we educate doctors to support, save, and prolong life. We educate dentists, accountants, policemen, bankers, engineers, priests, counsellors, teachers, lawyers; the list is endless. From this perspective education is a process of professionalizing and qualifying (Biesta 2016) a workforce ready to meet the needs of a population that functions based on the services provided by its various professions. However, it could be said that these examples of very particular approaches to education may more appropriately be called 'training' – i.e. education in a strong, predictable, and controllable sense (ibid), where very specific knowledge and skill is conveyed through clear structure, pre-set outcomes, and measures to assess progress and capacity against these objectives. An increasingly poignant problem that arises with this view of educational purpose is that there are any number of examples of how the professions listed above are facing increasingly unpredictable, uncontrollable, and insecure situations and events at this time (Crawford 2020, Land 2016) and a number of authors have proposed that different educational approaches are needed to prepare individuals to work in less predictable professional contexts (Gilead & Dishon 2022, Bendell & Read 2021, Gidley 2016, Delors *et al* 1998).

6.3 Contributions from Fire-Craft to Questions of Educational Purpose

The turn that I now take in this chapter will, as I have mentioned above, consider in some depth the potential contributions that the collaborative task of kindling a flame through fire-craft can make to questions of educational purpose as these have 'surfaced' through the perspectives discussed in Chapters One through Five. Approaching theory in this way – i.e. by first attending closely to practical, embodied and affective domains specific to a particular activity and seeking for how theory serves to 'make sense' of, or glean meaning from these is akin to how theory is often developed and discussed by many craft practitioners (for instance in Richards (1989), Langlands (2017), Crawford (2010), Sennett (2009), Code (2019b)). For these practitioners, theory 'surfaces' (Leitch 2018) out of regular and repeated immersion in craft processes just as a well-made pot arises from an amorphous lump of clay through the sustained activity of the potter. Richards describes her approach to meaning-making in the following:

> *In pottery, by developing sensitivity in manipulating natural materials by hand, I found a wisdom which had died out of the concepts I learned in the university: abstractions, mineralized and dead; while the minerals themselves were alive with energy and meaning. The life I found in the craft helped to bring to a new birth my ideals in education. Some secret centre became vitalized in those hours of silent practice in the arts of transformation.* (Richards 1989:20)

As Crawford (2010) describes sense-making in the craft context, rationales, reasons, theories – the 'whys' and 'wherefores' of one's actions – become increasingly cognized and understood over time, and always in close relation to the applied and practical engagement with materials and their transformation. He writes, "We take a very partial view of knowledge when we regard it as the sort of thing that can be gotten while suspended aloft in a basket. This is to separate knowing from doing…The things we know best are the ones we contend with in some realm of regular practice…If thinking is bound up with action, then the task of getting an adequate *grasp* on the world, intellectually, depends on our doing stuff in it" (Crawford 2010:163-164).

Sennett has a similar perspective on the way in which *making* informs *thinking*. He writes in *The Craftsman* (2009:9) "Every good craftsman conducts a dialogue between concrete practices and thinking…this dialogue evolves into sustaining habits, and these habits establish a rhythm between problem solving and problem finding."

In my attempt to get an 'adequate grasp' of why I think fire-craft contributes to questions of educational purpose, I have taken a similar approach in this thesis as that articulated by the authors named above. I have started, and want to stay closely connected to, the practicalities of 'doing stuff' and invite theory, meaning, and intuitions of purpose to emerge from a pondering of the practice of fire-craft itself. In order to be prepared and equipped for theorizing kindling's contribution to educational concerns in this way, the steps taken in the development of this text have been informed by the steps necessary to undertake the kindling craft in practical terms. Mention can be made here again of how the approach I have taken in this enquiry relates to the emergence of a Living Theory (Whitehead 2019) but I will still refrain from entering into this discussion at this point. I will, rather, begin by delving into the findings emerging from fire-craft and return to discussions of living theory in Chapter Seven.

6.4 The Stages of Kindling and Educational Purpose

The following evaluations of findings emerging from first, second, and third person perspectives on fire-craft are undertaken in seven distinct sections. I have chosen this approach because I have seen in virtually every fire-lighting session that I have facilitated recognizable steps or stages that are marked by distinctive *thresholds*. Participant's reflections have also alluded to these stages, and they often refer to their features in their comments on the process. By noting these stages during kindling sessions, I can gauge how a group is getting on, whether to support the group with tips or advise, or whether it is better to allow them instead to self-navigate through the tensions of 'problem solving and problem finding' themselves. These stages are not proposed as a fixed formula (why *seven* stages and not nine? or five?) but rather as a framework for the following discussions. I will state from the outset that it will not be possible to go into granular detail with each stage that I will discuss, due to the scope of the deliberations that are opened by the deceptively simple activity of fire-lighting. For the purposes of this text, however, I will provide a sufficient outline of each stage so that a further step can be taken in Chapter Seven, in which the following stages will be considered for the *principles* contained in fire-craft that inform questions of educational purpose such as those posed at the outset of this text.

6.4.1 Stage One: Cultivating Connection and Care

The first stage in fire-craft, as described in sections 3.2.1 and 3.2.2, is that of *preparing* (fire kit in readiness for the kindling task) and *situating* (oneself and others in a context conducive to kindling flames).

Preparing and *situating* are necessary and pragmatic steps in the craft, and success in kindling is determined and contingent on how well they are undertaken. However, I have come to recognize that preparing and situating are not actions that *precede* kindling in the way that we often think of acts that serve only functionally to set up the main event – they *already are* the event. In the age of the instant download and lighting quick response, the capacity it takes to properly prepare can all too easily be diminished.

Situating ourselves in context must also be an intentional act today, as our commutes, our computers, and our technologically mediated communications often have us 'connecting in' remotely - from elsewhere. Recent events have led to a dramatic increase in interactions mediated through screens that provide the possibility for contact-at-a-distance but create, at the same time, a contextless element where places and even faces can disappear behind icons, virtual backdrops, and asynchronous engagement (Gunter, Breines, & Prinsloo 2020, Wells 2004). Petriglieri reflects poignantly on recent years spent in online meetings, conferences, and discussions as follows "…what's so exhausting about digital conversations is being constantly in the presence of the other person's absence" (quoted in Desmet 2020:42).

The intentional act of 'situating' or 'locating in place' stands in stark contrast to how we have shaped many of our educational spaces for decades. These spaces – even though bricks-and-mortar and very much 'on the ground' - are all too often featureless, placeless, and divorced from the distinct character of their contexts. Kitchens writes that "a pedagogy of placelessness is still the norm in many schools, particularly as they are being forced to standardize curriculum and teach to the tests" (2009:242). Responses, and reactions, to the features and effects of this 'pedagogy of placelessness' have sparked a significant body of literature, research, and innovation, giving rise to theory and practice in *situated education*, *place-based learning*, and *contextual pedagogy* (Dewey 1997a, 1997b, Gruenewald 2003, Kitchens 2009).

Figure 29

Fire-craft necessarily situates outdoors, in a specific context and site, in a particular season, time, and set of local conditions. It situates kindlers in place through the need to become materially and bodily engaged in identifying which trees and plants growing in a specific location will be suitable for fashioning a fire-bow, spindle, hearth board, and for gathering tinder. A fire-lighter needs to learn when to harvest these, how to shape them, store them, how long they need to dry or how green they need to be (see sections 2.2.3, 4.2.1 and 5.2.2). There is variety here, situational variation, and often a need for innovation and improvisation that depends on a "sensuous and tacit type of knowledge" (Fenton 2016:194) or 'beyond-the-surface-

knowing' of materials and their affordances for fire-making. This feeling-knowing (Kuhlewind 2019) can only be gained and maintained through responsive encounters with the specificities of place, its plant-communities, and how these are affected by seasonal changes.

Situating features in multiple domains of educational theory, notably in Dewey's work. Dewey discusses situatedness as the "ability to place [students'] own doings in their time and space connections" (1997:208). Dewey argued that

> any purposive model of education has the fundamental need for a philosophy of experience. One chief principle "for interpreting an experience in its educational function and force" is that of the "interaction" of experience, which is the "interplay" of "objective and internal conditions". (Dewey 1997:42 quoted in Kitchens 2009)

Considering the above deliberations, situating as *connection* – formulated by Dewey above and by several of the reflections noted in Chapter Four – emerges as one contribution to questions of educational purpose from this first stage of fire-craft. *Kindling can help build connection*, connection to place and to person (self and others). My own experiences attest to this feature of fire lighting. In section 2.2.1, for instance, I reflected on my own experience of how seasonal encounters with fire in rural Ontario contributed to my sense of being 'rooted' in and connected to a sense-filled world – in a context that made 'sense'. This was contrasted (in section 2.2.2) with descriptions of how feelings of connection to place increasingly gave way to experiences of being *disconnected* throughout my formal educational years – years spent in quintessentially placeless classrooms subject to a schooling in dislocation.

Forest school education, bushcraft pedagogy, outdoor education, education for ecoliteracy (discussed in Chapter Five) are in large part responses to the way in which schooling has often in essence (and not just in its approach to subject matter) become abstract, detached, and disembodied. Providing opportunities for developing connections to natural contexts and communities are thus given a good deal of attention in literature on contextual education, as has been previously discussed in section 5.2.2.

Now, I am aware that when discussing notions such as *situating*, *connection*, or *reconnection* to place (or to nature) some contentious terrain has been entered. This is particularly the case when 'nature' is discussed in ways that seem to give it the attribute of a distinct 'place'- a "position in relation to other things and people" (Cambridge Dictionary).

In publications concerned with ecology, climate disruption, biodiversity conservation, and environmental education, numerous authors argue that *disconnection* from the natural world lies at the root of many social and environmental issues faced by people around the world today (Louv 2005, Kareiva 2008, Dorninger *et al.* 2017). Discussed in terms of a human/nature divide, nature/culture disconnect (Pergams & Zaradic 2006, Ives *et al* 2017), or an experience of 'alienation' from nature (Dickinson 2011) these perspectives lead to considerations for how 'reconnecting' to nature might be addressed (Zylstra *et al* 2014, Louv 2005, Frantz & Myer 2014, Ives *et al* 2017). Juxtaposed to these various publications – and often in response to them – is a growing body of literature that critiques the very notion of a separation or disconnection between humans and nature. Authors presenting these perspectives deem notions of 'disconnection' from nature to be 'anthropocentric human constructions' (Dickinson 2013), an 'oxymoron' (Fletcher 2017), or a 'culturally specific

worldview' (ibid). In fact, it is argued by Fletcher (2017) that the very notion of 'nature' – as something separate from us and 'some-*thing*' that we can be disconnected *from* – is highly problematic.

While I acknowledge the significance and complexity of the various viewpoints on 'nature' outlined above and their differing views on connection/disconnection/reconnection, I will state the following. The *experience* of being disconnected, separated, divorced, isolated, or alienated from nature is voiced by many kindlers reflecting on a fire-lighting session – I have heard these over many years. Furthermore, after a morning spent 'in nature' and after several hours engaged in the kindling task, kindlers speak of being more 'located' and 'in touch with' the natural world (as noted in section 4.3.5 C for instance). These accounts – which mirror my own – cannot be dismissed or set aside as mere fictions of subjective fantasy, for they emerge again and again in numerous fire-lighter's reflections as well as in the literature.

> The ability to produce frictional fire gives rise to a feeling of being 'at home' in nature (Fenton 2016:215)

> Thus, it could be said that the development of in-situ, land-based skill, such as friction fire-making, is simultaneously the development of a relationship with nature that is emotionally invested and educationally formative in terms of qualities such as perseverance, patience and humility (Fenton 2016: 202)

Many more examples could be drawn from either the 1st, 2nd, or 3rd person perspectives of kindling gathered in previous chapters regarding notions of 'situating' and 'connecting'. For the moment, however, I am going to return to the theme of 'preparing' and consider it in the context of *fire-craft* – the activity of *making* that instigated this whole enquiry.

In what follows I will use the term fire-*cræft* (after Langlands 2017) in referring to fire-lighting, as there is a significant distinction to be made between how 'craft' is generally understood (ibid, pp 9-12) and how I am striving to understand fire-lighting in this text. Langlands used the term *cræft* for the title and focus of his extensive study of traditional crafts because "they are about so much more than just making. We don't have *cræft* in our lives anymore…at some point we mislaid it and with it its true meaning" (2017:10). Langlands defines cræft as a process that requires a "hand-eye-head-heart-body co-ordination that furnishes us with a meaningful understanding of the materiality of the world" (2017:22).

Richards could well be referring to *cræft* (though she doesn't use this term explicitly) when she reflects that pottery is a process in which "the intelligence of the clay, my intelligence, the intelligence of tools, (and) the intelligence of the fire come together on the potter's wheel" (1989:15). Sturt (quoted in Crawford 2010:41) talks of "the own special virtues" of wood and the wheelwrights need to 'humour' these in order to get a set of similar felloes out of distinctly different sections of wood. These reflections from makers of various kinds shine a particular light on the way in which materials are conceived of and *related to* in cræft processes – makers relate to "intelligences" (Richards, 1989) and not lifeless matter, which we tend to manipulate rather than humour. *Cræft,* in light of these considerations, includes the pragmatic dimensions of preparing (tools, tinder, contexts) while it also includes a further dimension – it prepares the *preparer* to be a transformer of – and transformed by –

the processes, places, and practices of their craft (Code 2019b). "The practical level(s) of preparing" prepares "us to experience is-ness" writes Richards (1989:xii).

Langlands paints a similarly encompassing picture of *preparing* in his discussions of skep making, weaving, thatching, lime burning and other cræfts discussed in this book. Langlands writes of thatching;

> The sequence at Locheport provides an excellent example of how a craft should never be considered in isolation from its immediate surroundings, and that the resourcing of a craft is almost as important as the end product's functioning value. (2017:172).

In considering the cræft of walling he notes "the craft of drystone walling doesn't begin the moment you start smacking the stone. There is an enormous amount of preparation work, beginning with some serious consideration" (2017:121). Preparation for weaving starts well before the wool is even 'materially' to hand: "…for wool, the production line begins with selecting the right ram to put in the flock" (2017: 140). For hurdle making: "…a hurdle maker's hurdles are only as good as their coppice-work" (2017:156). These reflections are perhaps best summed up by Langlands in his reflection that craft is "not just a knowledge of making but a knowledge of being" (2017:21).

Further examples of how the often extensive processes of 'preparation' and 'situating' both foster and deepen connections to place, people, and to materials can be found in publications dedicated to individual crafts (Richards 1989, Abbott 1989, Bealer, & McRaven 1976, Tabor 1994) or to a variety of crafts (Code 2019b, White 2016). In terms of how this stage informs questions of educational purpose, and what it might mean for education to not merely be a matter of 'filling pails' but of kindling flames, the deliberations on this first stage of fire-cræft distil down for me to the significance of situating/connecting and, further, to *care* given to proper preparation. Care is essential for successful kindling and learning kindling is an education in care.

Care describes the attitude, attribute, and quality of attention that the kindler needs for embarking on their cræft. Care for tools, for tinder, for time and for attending to the 'intelligences' (Richards 1989) of these. Care for the places that provide the vessel for kindling. Care shifts our abstract and identification-habituated gaze at 'trees' to a relational encounter with Ash, with Oak, with Ivy, and the virtues they offer as bow or spindle, in their willingness to either support or resist flaming.

If the kindler doesn't have or develop the capacity to *connect* and to *care,* then the intelligence of Fire will teach it. Care is taught by tinder that has not been dried well or kept dry (fire won't take to this), by inadequately fashioned tools, by the bite of the knife on skin rather than on wood, by the uncollected fuel, by the unanticipated storm, in myriad details that went unattended to – uncared for – in the preparation for the task.

Figure 30

Carelessness – a lack of caring – is at the root of how fire can be a destructive force, either intentionally so (as in arson) or incidentally so (as when fire 'escapes'). Tales of theft and retribution often feature in origin stories of how humans first

came to light fires and here we find many an ethical dilemma to ponder as we consider teaching kindling in education, in what I have begun to refer to as *education-as-kindling.* I will return to consider this aspect of kindling further in Chapter Seven.

6.4.2 Stage Two: Navigating Thresholds

Biesta writes that "educational activity always operates in relation to a number of different domains of educational purpose" (2020:33). The cultivation of *connection* and *care* have emerged as one response to the question 'what is education for?' which emerges from my deliberations of the first stage of *kindling.* Another domain of educational purpose can be identified in considering dimensions of the cræft as these are engaged with through a participatory, collaborative approach.

I see stage two of kindling as presenting very prominently the theme of *navigating thresholds* through the inherent *threshold experiences* (discussed below) that kindling entails. This is particularly the case if fire-cræft is facilitated as a situated, collaborative task. In bushcraft, forest school, and 'survival skills' education (discussed in Chapter Five), fire-craft is primarily described as something to master oneself as a crucial component in an *independence tool kit*, contributing to the development of manual competence and individual agency (Crawford 2010, 2020). Along with its benefits to the individual, I have witnessed a great potential in fire-cræft for engaging with the complexities of *social competence*. I explore this dimension of fire-lighting by inviting participants in fire-lighting sessions to form small groups when undertaking the task. There is very little academic literature on facilitating kindling in this way so most of the deliberations that follow are derived from my own observations and from reflections on this stage by participants themselves (noted in Chapter Four). I have described my process of establishing groups and demonstrating the task to them in sections 2.2.4, 3.2.3, 4.4.4.

I initially adopted a group approach to kindling when I introduced it into a professional development course in Ruskin Mill College some ten years ago. At the time there was an evident lack of morale and increasing fragmentation in the staff body who were my first kindling students. Roles in organizations can become siloed, motivation can wane, a shared sense of purpose can dissipate. It could be imagined, with the above in mind, that having staff work together in groups with individuals of different roles, pay grades, and status was a sure way to light fires of the not-so-comforting kind. But in fact, my aim was to see if it was possible to dissolve (even briefly) the segregating effects that organizational features can foster and to invite a meeting of hands, hearts, and heads in the common task of kindling. This approach proved highly effective. Kitchens writes, in a passage that discusses Dewey's educational thinking, that "a situated pedagogy is interested in identity and self-formation, but also social-formation and the relationships between the two, between the self and social in the process of becoming" (Kitchens 2009). I continue to facilitate kindling as a collaborative task, as the *social-formation* element I included early on remains a fascinating dimension integral to my research and development of this 'teacherly action'.

Figure 31

Another reason for undertaking the kindling task in groups is that fire-making using traditional techniques presents some very pragmatic challenges – it is a difficult task to do oneself. How do you keep the hearthboard still while introducing rapid lateral movement to the spindle that bores into it? How do you keep the spindle in constant motion – always spinning while the bow necessarily alternates directions, forward and back? How do you apply enough downward pressure on the bearer to create adequate friction between spindle and hearthwood while not applying too much and restricting the movement of the spindle altogether? (Meg's reflections in section 4.3.5 are relevant here). There are some complex dynamics to manage that create some specific challenges – tensions even – between the need to work simultaneously and effectively in the vertical plane (spindle), horizontal plane (hearthboard) and frontal plane (bowing) and these all need to be coordinated seamlessly for fire to be kindled. These are just some of the technical idiosyncrasies of the cræft that lend themselves to being tackled with a group approach.

Observing a group of three or four kindlers navigate the process of taking different roles, choosing different tasks and even physical positions in readiness for kindling is a study in itself. How negotiations unfold, whether leaders arise, or a more equal approach is adopted, how agreements are made, forced, or formed…what emotional dynamics accompany these negotiations (both verbal and nonverbal) …there is immense complexity here. Paul reflects that; "there's so much in it…how the team forms and functions…" the fact that "you're given a task but what other tasks are there?... the task of team management…the task of leaders…the task of maintenance…getting people to understand that they are constantly working with multiple tasks, with multiple emotional, physical, and intellectual capacities…". Other participant reflections on the forming of groups (4.2.4), the practical task (4.2.5A) and its physical dimensions (4.2.6A), as well as on the social process (4.2.5B) and its emotional dimensions (4.2.5C) have led me to identify within my own experiences of fire-craft, in the reflections of participants and observed kindling sessions a number of *thresholds* that groups navigate in the process of kindling together.

Attention to thresholds in educational processes have had increasing significance ever since Meyer & Land introduced the study of *Threshold concepts and troublesome knowledge* into educational theory and research almost twenty years ago (2003, 2005). Since these early publications, a considerable – and ever expanding – body of literature has emerged and scholarly interest in the Threshold Concept Framework (TCF) continues to grow (Land, Meyer & Smith 2008; Land, Meyer & Flanagan 2016). There is much that could be brought to bear on this study of *kindling* from the threshold concepts research, but in the context of this study – with its focus on a situated and embodied activity – it is *threshold experience*s that I want to consider at this stage. These have been given much less attention than threshold concepts have in the TCF. Thresholds encountered as *experiential processes* can – like threshold concepts – be troublesome and lead kindlers into liminal spaces. Participant reflections in the sections noted above give numerous examples of what I identify as the

troublesome and liminal elements in the *threshold experiences* that kindling evokes (see Chapter Four).

One example of what I am referring to as a threshold experience in kindling is the following. It is evident, when a group of kindlers first starts to work together, that we have become highly individualized as people ("atomized individuals" according to Desmet 2022). We have 'our ways' of doing things, our own opinions, physical capabilities, degrees of emotional resilience and so forth. These are *evident* to me (in general ways) when I observe a group start to work together. The initial grouping can be quite awkward, as three different bodies, minds, and attitudes work separately on the task. This observation arises from noticing a group's communication style, body language, orientation in space, physical engagement with the tools, coordination (or lack thereof) with the mechanics of the task, and so forth. Reviewing video footage from kindling sessions reveals the various ways in which a good deal of 'negotiation' (often non-verbal) is needed in the early stages of the task. There are also audible signals that indicate that the group is not yet working in synch, most notably a loud squeaking/rattling noise made by the turning spindle on the hearthboard that fills the kindling space (see Tammy's reflections in section 4.3.5A for a participant's account of this stage). Another sign of where a group is in relation to this early threshold is evidenced by the fact that no smoke is produced despite a good deal of exertion being expended. The troublesome nature of this phase of kindling is noted in facial expressions which feature determination or frustration, willful effort and confusion, and any number of other emotions that are either individually contained or outwardly vented (including, sometimes, anger). The observable, phenomenological dynamics of the cræft become, in respect of these perceptions, a kind of 'speaking' for how a group is working together and how they are progressing with learning the proper technique and group coordination (files T00 – T16 in Code 2023 illustrate well the range of emotions experienced by kindlers throughout the process). As a facilitator of the process, I have learned to 'read' these signs of how a group is navigating this threshold from some distance away and note if they are still working out how to do this and how – or if – I should intervene (Alex's reflections in section 4.3.6A are significant here as are those of Paul in 4.3.6B).

When a group 'crosses the threshold' the sound changes, the movements become more coordinated (as if it was one cohesive kindling unit rather than three individuals each doing their own thing) and at this point smoke is usually generated. A new dynamic emerges in a group at this stage which is akin to the state of *flow* first formally articulated by Csikszentmihalyi (1997) and subsequently developed in an extensive body of literature discussing *flow* states (Nakamura & Csikszentmihalyi 2014, Beard 2015, Csikszentmihalyi, M., Montijo, M. N., & Mouton, A. R., 2018). A detailed analysis of how closely participants' experiences of this stage in *kindling* corresponds to flow-theory has not been undertaken at this point, although several kindlers refer to experiencing flow in Chapter Four's fire talks. From my own observations I have witnessed many, if not most, of the nine key characteristics of flow states defined by Nakamura & Csikszentmihalyi (2014) and others (Abuhamdeh 2020 – see Appendix C) if kindlers successfully cross this first threshold. If this is the case there is a striking shift in the individuals in the group, which has now become one coordinated ensemble rather than an awkward aggregate of three individuals. This shift is hard to document or record in any format, but in file: *T16 FIRE best success sequence* (Code

2023) the group has navigated earlier thresholds to enter the flow state (on their third attempt at making an ember) and light a fire. This aspect of kindling warrants further research.

The progression from group formation to *flow* is, however, not necessarily straightforward or linear (which is also discussed in the TCF material) and sometimes the group moves in and out of the flow state (see Rattray 2016:71). This can lead to a re-emergence of troublesomeness and liminality. Because it is a 'hand-eye-head-heart-body' activity, the experiences of liminality in kindling are not restricted to the conceptual domain (which has often been the focus of the TCF literature) but these extend into the affective domain as well as into the social, shared, or intersubjective domain (as discussed by Rattray 2016).

To summarize, when (or rather if) it is achieved, I call the realization of a flow state a *threshold experience* as it marks a transformation in the process of kindling. This stage tends to resolve early troublesome factors of trying to undertake the kindling task and experiences of it 'not working' and it is often accompanied by a radical shift in the moods and motivation of the group members, particularly as it tends to be accompanied by the appearance (and visual/sensorial affirmation) of smoke rising from the hearthboard. This is a very encouraging and motivating threshold crossing. If *care* and *connection* (to each other and to the process) can be brought to this threshold – and the troublesome and liminal states it evokes – progress in kindling is greatly enhanced (as touched on in reflections in section 4.3.5B). Though not considered in depth at this point, or corroborated systematically, Rattray's discussion of the significance of *hope* and *optimism*, is relevant to consider in how the affective dimension of the liminal states features in kindling (2016:68-69). In TCF research it is noted that "the threshold (is) the entrance into the transformational state of liminality" (Meyer & Land 2005:8). This first threshold marks an initial experience of the transformational potential of kindling, although "mastery" of this threshold is inevitably "the point of departure for another threshold" (Rattray 2016) and further stages in the process which will also present kindlers with different troublesome and liminal experiences.

Figure 32

The analysis of the second stage in fire-lighting undertaken in the previous pages goes some way to address questions relating to participants' experiences of kindling reiterated at the outset of this chapter. This has not been an exhaustive answer, by any means, to questions of what participants encounter when kindling is undertaken as a collaborative task, but it provides a contribution to those questions. From this analysis another purpose for education can be proposed, which is that educational actions can be selected expressly to support the development of capacities to navigate the often-troublesome nature of thresholds, to be able to enter liminal states without losing focus and engagement, and to sensitively accommodate to others so that a more cohesive way of working together can be invited. I will discuss this point further as a *principle* of education-as-kindling in Chapter Seven.

Threshold experiences are significant in all the different stages of kindling that I will discuss below. Rather than describing them all at this point, however, I will pick up the discussion of threshold experiences in the context of each stage that follows.

6.4.3. Stage Three: Working with Tensions

A third stage of kindling that has emerged from a contemplation of the findings gathered in the first half of this thesis is encapsulated for me within the phenomena of *tensions* in the kindling process. Encountering *tensions* in kindling is not limited to a particular stage or point in the process, but I focus on them at this point as they do become particularly apparent as kindlers progress in the task. They are related, even entwined with, thresholds but they warrant dedicated space for discussion due to their significance for both fire-cræft and for considerations of wider educational concerns.

Tensions: 1st and 2nd person perspectives

Revisiting chapter two and my own experiences with fire cræft, I began by reflecting on tensions that exist between different ontological views of Fire (described in section 2.2.2), evident in either material or spiritual perspectives on the nature of fire. These tensions persist today, although they are dominated for the most part by materialistic ontologies evident in the fire triangle and fire tetrahedron, or in chemical formulae for combustion. I will return to discuss this tension or material:spiritual dynamic in due course.

A tension exists between fire as a creative force (for instance it is essential and integral to many crafting/*making* processes) and a destructive power of sometimes awesome dimensions. These tensions can manifest in burns both outwardly (section 2.2.6) and inwardly (section 2.2.7) and they present to kindlers of all descriptions – and particularly to educators – a need to discern between the 'beautiful risks' (Biesta 2016) that fire affords and the 'risk averse' responses it can evoke (see section 2.2.8). I will also discuss this theme further in stage seven of this chapter.

As significant as the tensions outlined above are, it is important to begin these deliberations by considering those tensions that are evident in the practical and technical dimensions of the cræft itself, as this enquiry emerges from this domain. Considering tensions in the context of fire-cræft provides a basis for some subsequent reflections on particularly significant features of tensions in social domains, which will be considered below.

What can we learn about tensions and how to work with them from the practical kindling task?

It is important when fire-lighting to string the fire bow with adequate tension so that it holds the spindle firmly while still allowing for rotational movement generated by the bowing action. The actual string tension in the bow must be such that it isn't too loose – allowing the spindle to slip and pause in each change of rotational direction – or too tight so that it repeatedly slingshots the spindle out of its seating in the hearthboard and into the bushes nearby (creating a different set of tensions in the kindling group!).

There must be *both* downward pressure on the spindle *and* an 'allowing' gesture provided by the bearer if the spindle is to generate friction in the hearthboard. There must be both taughtness in the bowstring, determination in the bowing action, and (paradoxically) fluidity and 'letting go' in these so that the motion is seamless between two bowers and between two opposing motions introduced to the bow. Observation or video footage of kindlers' working together often reveal different dynamics in how these tensions are being navigated. These pragmatic considerations are also essential elements in the approach or attitude adopted by kindlers themselves – there must be (simultaneously) a *doing* (my will - active) and an *allowing* (thy will- receptive). The practical process of kindling teaches kindlers, in short, that tensions are not to be resolved in either/or terms, as opposing forces to be reduced *either* into the one *or* the other. Tensions in kindling invite more of a 'both/and' approach. Encountering and navigating these tensions constitutes an early threshold experience for kindlers and it can be very troublesome.

Being confronted with the tensions described above in relation to the tools and technique of kindling can spark tensions of another kind for and between individual kindlers (as noted above). These become palpable for an observer or facilitator of a kindling process, and they present some particular challenges. Alex's reflections in 4.3.5B are significant in this regard, as are those of Tammy in 4.3.6B and those of Paul in 4.3.7. These tensions can be seen bodily, gesturally, and even vocally as frustration, impatience, short-temperedness and even anger.

I have, in my approach to fire-cræft in an educational context, intentionally incorporated these tensions in the process (and not avoided them) so kindlers are able to encounter and work with them in the cræft context. They are as integral to the cræft, in my view, as preparing and situating were at the outset of the process. I provide opportunities to encounter - and learn to work with - tensions in kindling by:

- Facilitating it as a collaborative, group-based task with the need to *work together* woven into it
- Doing *enough* preparation so that in a 2-3 hour session kindlers can engage with the task and have a decent chance of lighting a fire, but without doing so much preparation that there are not technical challenges and thresholds encountered along the way that need to be worked through
- Designing the task with opportunities (and necessities) for 'problem solving and problem finding' (Sennett 2008) built into it through an awareness of the tensions the task contains

I have previously touched on these aspects of the design of kindling sessions as I facilitate them in section 2.2.4 in section 3.2.4 and in 3.2.5.

Tensions: third person perspectives

Thus far, the theme of engaging and working with tensions in the kindling cræft has been considered briefly through a review of 1st and 2nd person perspectives considered above as well as by a brief analysis of the technical demands of the craft. With regards to 3rd person perspectives, tensions in educational and social domains are discussed in a range of contexts

although most of these discussions do not mention kindling (why would they?). These 3rd person perspectives nonetheless open significant possibilities for beginning to bridge the specificities of fire-cræft with educational concerns in broader terms.

In *Bushcraft as radical pedagogy* the authors quote Carr and Hartnett (1996, 25) who write "debates about education always reveal the ideological tensions occurring in a society as it struggles to come to terms with changing cultural circumstances and new economic conditions". Carneiro, Looney & Vincent-Lancrin (2015:525) state that "education is at the crossroads of all societal tensions and mutations", not the least between 'humanist' and 'instrumentalist aims of learning' which have become more intense in recent years (ibid, 524). In another context, Cameiro writes;

> Evermore placed in the thin borderline between stability and change, between preservation and innovation, education is undergoing unprecedented tensions. Indeed, it is a mirror of all the contradictions that strike our modern societies. (2015)

Over two decades ago, the Delors report (*Learning: The Treasure Within, 1998)* identified seven tensions generated by technological, social and economic change and indicated that it was the "complex responsibility of 21st century educators to overcome" them (Tawil and Cougoureux 2013:4). I will return to consider several of the tensions articulated by Delors *et al*. below, as it is helpful to ground this discussion with specific examples. How these relate to what I have identified as *tensions* encountered in the kindling cræft will also be discussed. I take this step at this point because discussions of tensions in society inevitably, and naturally, lead to questions of what 'strategies and practices' (Tawil and Cougoureux 2013) or 'pedagogies and learning approaches' (Carneiro, Looney & Vincent-Lancrin, 2015) might be appropriately developed to address them. I think that *kindling* is an instance of just such a 'learning approach', and one that uniquely offers practices that can meaningfully engage with the phenomena of tensions in society today. It does so by engaging participants in the particulars of a cræft, a place, and a process that – while being *specific* and *bounded* in its application – can also shed light on educational concerns in broader terms if grasped in terms of its *principles*. I will address this proposal in greater depth in Chapter Seven.

I will begin by discussing three tensions that are described by theorists of various disciplines in the following passages but will return to discuss other tensions as they relate to stages of the kindling process yet to be considered. These discussions will not be as detailed and in-depth as the topic warrants as this would stretch this thesis beyond its limits. The deliberations that follow must, therefore, serve as openings for further research and discussion.

6.4.3a Human:Nature

Just as tensions considered in the technical aspects of *kindling* are an inherent and even necessary aspect of the cræft and are not, in my opinion, to be 'overcome' (as is proposed by Delors *et al* for tensions in the social domain), I see several of the tensions discussed in the following passages as inviting a similar approach. This is why I don't speak of tensions as being 'between x and y' or 'x versus y', and as being resolved through a focus

‘either *on* x *or* y’, I use, instead, the formulation x:y when discussing them. My personal view is that these tensions invite us to change our habits of binary, ‘either/or’ ways of thinking, and the complexity reduction (Biesta 2010) that often lies at the root of such habits.

One tension that seems particularly relevant at this time is one that I have touched on previously (in the introductory chapter to this thesis and in section 6.1.1) which I see as being manifest in human:nature relations. Delors *et al*. did not describe this tension, which I think is an omission in their analysis. This fundamental tension is evident in such high-profile and pressing issues as climate change, biodiversity loss, and discussions of how human activity dominates (often negatively) these relations in this time of the ‘anthropocene’.

I think that the troublesome tension arising in human:nature relations at this time is due in no small part to the dominance of reductive modes of interpretation and manipulation (Palmer 1993, Bortoft 1996) that are brought to bear on Nature’s complexity, with largely human benefits in mind. These tendencies are also evident, in my view, if the reduction of the Earth’s biodiversity to ‘natural capital’ and ‘ecosystem services’ goes too far, i.e., are then further subject to processes of abstraction and quantification in, for instance, financialization and monetization (Dasgupta 2021, O’Neill 2017, Parker 2018). Though I am clearly skating along the fine lines of reduction myself here, sketching out in such brief lines topics of immense complexity and nuance, it is not unfair to say that human:nature relations have been – and continue to be – overly-dominated by extractive tendencies and ideologies that have treated nature as a repository of resources to be obtained and commodified (Ricoveri 2013, Büscher, Dressler, & Fletcher, 2014, Hermann 2021). These human-centric attitudes towards nature are in danger of ‘costing us the Earth’ (Bendell & Read 2021). For now I will return my focus to the topic at hand – how the practice of kindling might provide a suitable ‘instance’ for cultivating more adequate human:nature relations .

In literature on bushcraft, forest schools and outdoor education (kindling <u>in</u> education) educators identify one of the foundational benefits of including kindling in their pedagogical processes is that it fosters a “purposeful relationship with the natural world” (Fenton, Playdon & Prince 2021:7). This is discussed in some considerable depth by Fenton (2016) in her PhD thesis on bushcraft and is also evident in several publications reviewed in chapter 5.2.

Figure 33

To revisit briefly some of the points already considered that posit kindling as a process fostering positive human:nature relations, the following is worthy of note. Kindling begins with preparing and situating, which requires a heightened sensorial, observational, and situational engagement with the natural world. The need to identify suitable wood for making the kit, for tinder, or for sustaining a fire requires kindlers to hone these abilities. I describe this stage (section 2.2.3) as a process of coming to know the ‘woodiness of wood’, a ‘beyond-the-surface-knowing’, and a feeling-knowing. Fenton discusses this affordance of kindling in terms of ‘conscientization’ (after Freire) thus “conjoining self-realisation and nature”. She concludes that

> the development of in-situ, land-based skill, such as friction fire-making, is simultaneously the development of a relationship with nature that is emotionally invested and educationally formative in terms of qualities such as perseverance, patience, and humility (2016:202)

I see these capacities as being incorporated in the capacity to *care*, which I propose is both essential for and cultivated through engagement with kindling as a cræft. My *experience* of working with trees and their wood led to a relational shift accompanied (or even fostered by) a linguistic shift (Stibbe 2019) – i.e., from *ash tree* (object – 'it') to *Ash* ('thou'). This shift can be thought of as a shift from relating to tree as a material resource only (which, of course, it is because it provides timber) to relating to Tree as a *relative* in an ontological shift very strikingly articulated by Deloria Jr in his essay 'Relativity, Relatedness and Reality' (1999). This point will receive more dedicated attention in Chapter Seven.

6.4.3b Human:Technology

A second tension that kindling naturally evokes, which leads to considerations of developments in society generally and in education more specifically, is evident in what I refer to as human:technology dynamics. Although not the same as the traditional:modern tension described by Delors *et al.*1996, Delors 2013 and Tawil & Cougoureux 2013, I see these formulations as being very closely related. The latter authors ask the question "how is it possible to adapt to change without turning one's back on the past, how can autonomy be acquired in complementarity with the free development of others and how can scientific progress be assimilated? this is the spirit in which the challenges of the new information technologies must be met". I think that this tension, although clearly posited in the domain of information technologies, is not limited to these. For instance, I write in the opening chapters of this thesis 'I am not setting out to educate the next generation of professional kindlers so that employability targets for fire-lighters are met (there are none, and there is no need)…' (section 2.2.8) which prompts the question: why – then - use traditional kindling tools when technology (butane lighters for instance) has long ago superseded the 'primitive' bow and spindle?

One response to this question is the following. The relatively 'simple' technologies that are employed in the kindling task (and this is worth considering in the context of many processes of *making*) requires more "sophisticated knowledge, wisdom and technique" (Fenton 2016:189) than do 'modern' technologies. This noteworthy relationship between the (relative) sophistication of the technology and the skill required to use it – with significant practical implications but also important ethical ones as well – is explored very lucidly by Crawford in his books (2010, 2015 and 2020). He writes:

> The world in which we acquire skill as embodied agents is precisely that world in which we are subject to the heteronomy of things; the hazards of material reality. To pursue the fantasy of escaping heteronomy through abstraction is to give up on skill, and therefore to substitute technology-as-magic for the possibility of real agency. (2015, p)

Sennett critically considers human:technology tensions as follows:

> The greatest dilemma faced by the modern artisan-craftsman is the machine. Is it a friendly tool or an enemy replacing work of the human hand? In the economic history of skilled manual labour, machinery that began as a friend has often ended up as an enemy. Weavers, bakers, and steel workers have all embraced tools that eventually turned against them. Today the advent of microelectronics means that intelligent machines can invade realms of white-collar labour like medical diagnosis or financial services once reserved for human judgement. (2009:81)

Cuthbertson, Socha & Potter (2004) in their article *The Double-Edged Sword: Critical Reflections on Traditional and Modern Technology in Outdoor Education* contribute to this very contentious topic the following view from a discussion of how outdoor education, and in fact engagement with/in nature generally, has changed as technological innovation has touched on virtually all aspects of human encounters with nature (from heat reflecting socks to satellite locating software). Though acknowledging the benefits of many of these innovations (see page 7 of Cuthbertson, Socha & Potter 2004), they also comment that the use of more traditional technologies provides:

- a disruptive element to "human constructs and artefacts of peoples' everyday lives" in beneficial ways, fostering critical reflection and awareness of these
- a greater understanding of history and science through the "learning and practice of the skills" to use rudimentary tools and "the direct relationship with these technologies" that they provide
- "critical intra-personal and inter-personal skills" through the often community-based nature of the tools/technologies employed (2004:138)
- a "sense of reciprocity with nature" and a "deep relationship with the land"

None of the authors above should be seen as anti-technology in any fundamentalist way (Crawford is a motorcycle mechanic and self-proclaimed 'gearhead'), but at the same time they all have deep concerns about what happens to our humanness as we increasingly technologize our making, our movement, and our means of communication. Richards' contemplations of *cræft* – i.e., when it is considered not just as a process of making 'stuff' but as simultaneously a praxis of human/self-formation and transformation – leads to pressing questions about these matters. Do technologies support us in awakening to our 'is-ness' (Richards 1989)? to our agency (Crawford 2010, 2020)? to a realization of our subjectification (Biesta 2016)?… or do technologies (or particular types of technology) hinder these? This tension is, of course, highly complex and warrants – and continues to receive – a good deal of critical attention as the world of humans and technology (particularly digital technologies) become ever more deeply entwined. Suffice it to say as a summation at this point that there is a significant contribution to be made to *crǽfting 'is-ness'* through the use of tools and technologies that *foster connection and care* (to place, people and planet). It seems clear that the human:technology dynamic need not be destructive to these, but some very careful deliberation is needed as ample examples speak to the highly disruptive potentials that this tension can bring about. Fire-craft contributes significantly to deliberations on tensions such as those arising from human:technology interactions through

its deceptively 'primitive' use of four bits of wood and a piece of string to initiate one of the most profound culture-changing incidents (historically) of *making* that we can consider.

6.4.3c Individual:Society

A third set of tensions that is discussed in the literature – and that I will outline in this section – is described variously in terms of individual:society dynamics (Biesta 2016), the individual:universal (Delors et at 1996, Carneiro and Draxler 2008), the individual:community (Sennett 2009), the self:other, and even self:self – where the 'Other' is even experienced in terms of one's own conflicting emotions, responses and attitudes. Biesta, referring to the importance that Dewey placed on this 'central problem' of education, quotes the latter's views in the following: "The ultimate problem of all education is to co-ordinate the psychological and the social factors" (Dewey (1895) in Biesta 2016:28-29).

Here too I suggest that *kindling* is a unique instance of a 'pedagogical practice' that can engage this tension in a bounded, situational context – particularly if it is undertaken as a collaborative task (as discussed previously). In terms of my own reflections on fire-lighting that are recorded in Chapter Two, I touch on these dynamics in the sections titled 'between burnout and boredom' and 'risk assessment'. *Kindling* evokes in kindlers a wide range of feelings and emotions – from eager anticipation and excitement, to exhilaration, frustration, anger, impatience, resignation, determination, joy, wonder and satisfaction – and these, as much as the physical aspects of the task, need to be 'tended to'. Over time and repeated kindling sessions, a degree of skill in working with these 'inner' flames (an analogy that reaches as far back as the Fire Sutra of the Buddha (Booth 2015)) can accompany a gradual mastery of the technical skills inherent in the cræft, leading to a greater sense of 'agency'. These observations concur with many of those made by educators discussing their experiences of working with fire-lighting in bushcraft education, forest school contexts and outdoor education (discussed in Chapter Five) and several kindlers reflect on this aspect of kindling in Chapter Four.

This brief sketch of tensions - in the kindling process and in literature discussing developments in the social realm today – must suffice for now, incomplete as it is. It sheds light, however, on a third purpose for educators to attend to in contemporary educational endeavours. Learning to live with, in and accommodate to tensions in ourselves and our social interactions is very much a feature of our time, as it is with tensions arising between human and more-than-human co-habitors of this planet. Rather than 'overcome' these tensions (particularly in a binary splitting that forces an either/or resolution on them), I propose that kindling can invite our creative engagement such that by dwelling in the tensions we can encounter a space of potential that would be missed were the troublesome nature of the tension to be either avoided or overcome in a one-sided manner. Some further attention will be given to the theme of tensions in the discussion of stages of *kindling* below and in the last chapters of this thesis.

6.4.4 Stage Four: Reversal of the Will

Before discussing the stage that emerges if kindlers have navigated a series of thresholds and tensions in both practical and affective domains to the point where they have generated an *ember* through their activity, I would like to consider another tension that kindling addresses in a quite poignant way.

Meg touched on a significant dynamic when considering the kindling task when she reflected (in section 4.3.7.) on "the tendency for the teaching in her context to remain abstract" and compared this to the kindling exercise as follows: "in the mainstream…wood is wood, tree is tree, a branch is a branch whereas in the practical session a good deal of attention was placed on which wood to use from which trees and that achieving the task depended on this understanding and experience of different materials." Meg reflected that "…now I'm learning that it's not about how much I know but maybe it's how much I connect and am willing to find out…". Meg's reflections critically evaluate the abstract, intellectual approaches to teaching that she experienced in her home (Asian) context: "I was taught many theories…but never got to try…to apply I would say…or to really do the hands-on experience." She reflects on how she might have been given a PowerPoint on how fire-lighting is done with traditional kit but would not have been given the task of doing it herself or with others. Crawford succinctly distils reflections such as these down to the following: "The current educational regime is based on a certain view about what kind of knowledge is important: "knowing that" as opposed to "knowing how" (Crawford 2010).

I relate Meg's, and other kindlers' reflections, to a tension that has emerged as being of very real significance in education as well as in a wide range of other domains (such as business and organizational development, medicine, ecology – to name but a few). I refer to this as a knowing:doing tension.

6.3.4a Knowing:Doing

Some kindlers reflect on the fact that – after a demonstration or explanation from me – the process sounded 'simple' but was highly complex and, at times, very troublesome (Chapter Four) when they actually engaged with the cræft. Having a conceptual grasp of what kindling entails is (obviously) not enough for a realization of the *cræft* of kindling, which can only be grasped by navigating its technical elements, its thresholds, and its various tensions. Literature reviewed in Chapter Four by bushcraft, outdoor and Forest Schools educators articulates this tension in a number of different ways. They discuss the increasing tendency for 'banking models' of education to dominate the educational landscape today (Fenton, Playdon & Prince 2021) and many of the educational approaches reviewed in that chapter are either explicitly or implicitly (more often the former) aimed at re-balancing the knowing:doing dynamic in educational processes.

Educators who did not feature in the review undertaken in Chapter Four (because they do not explicitly discuss fire-lighting) describe this tension in the following ways: "we have observed over many years of dealing with students in the university that there is often a larger

gap between knowledge and action than there is between ignorance and knowledge" (Lieblein *et al*., 2004, p. 149). This tension was first articulated as a knowing/doing gap by Pfeffer and Sutton in 1999 although it had been discussed – in other terminology – some time before this. Sennet, for instance, discusses this tension in terms (after Arendt) of the contrasting images of *Animal laborans* and *Homo faber*. "Western civilization has had a deep-rooted trouble in making connections between head and hand" (Sennett 2009:9) and this has often given rise to the distinctions between 'knowledge workers' and 'manual workers' (ibid). There are striking differences in how these types of workers have been, and can still be, valued on many levels. The manual worker, *Animal laborans,* is all too often seen as being unintelligent, unreflective, a "beast of burden, a drudge condemned to routine" (ibid, 6). In contrast, *Homo faber* (according to Arendt) stands above *Animal laborans* in the position of judge and assessor. Crawford notes that the separation between knowing and doing has not merely arisen spontaneously, but that "the twentieth century saw concerted *efforts (sic)* to separate thinking from doing" (2010:37). These efforts (e.g., Taylorism) were 'successful', he reflects, in ordering our economic life but Crawford is also quick to critique the perversity of the notion that this has been a success at all as it has resulted in "the degradation of work" (ibid.)

Delors *et al.* allude to the tension arising from 'an expansion of knowledge and the ability to assimilate this knowledge' (1996) – which we should read as an *in*ability to assimilate this knowledge. Though not quite the same as the knowing:doing tension I relate these two for the fact that *assimilation* is an active, willed process for which there is often little attention given in many current educational contexts so heavily influenced by high stakes testing agendas. The fact that our education systems have been increasingly focussed on 'head-learning' (and particularly in the last decade with the rhetoric of the 'knowledge economy') have no doubt contributed to the emergence of discourse identifying an increasing disconnect between knowing and doing in a head-spinning range of disciplines, too many to mention in the scope of this brief outline. It seems that the knowing:doing gap persists as an ongoing tension today and I propose that one of the contributions that this study of *education-as-kindling* offers is the identification of a 'strategy and practice', a 'pedagogy and learning approach' that can engage this tension constructively in a distinct but transferable pedagogical occurrence (Oliver & Gershman 1989). I am positing this in very concrete terms – i.e., in the praxis of fire-craft specifically – but also (and more importantly for questions of educational purpose in broader terms) if kindling is understood to be 'an instance worth a thousand' of pedagogical practices to address tensions in contemporary society, which I will discuss in greater detail in Chapter Seven.

A quite specific example of how I see the knowing:doing tension manifesting in the kindling process is discussed (albeit briefly) in section 2.2.8. In this section I reflect on the fact that introducing kindling into adult education contexts brings with it a significant amount of risk. Apart from the obvious risks of possible cuts, bruises, and unintended infernos there is a more poignant risk that I have woven into the kindling process as I work with it: I do not design the process for guaranteed *success* or – rather – I present kindlers with the challenge of meeting head-on ideas of 'success' that we have formed or adopted and how these

influence our 'progress' (doings) in relation to these (see Code 2023, file: *I. what do we mean by 'success'?mp4*) .

In my praxis, I do not design and facilitate kindling sessions with the expectation that every group will light a candle from a fire they have first kindled themselves. I design the process so that each group, and individuals within the group, have the *potential* to kindle a flame and will do so IF (and this is a big IF) they navigate the various thresholds and tensions inherent in the task. I propose that a pedagogy that considers *education-as-kindling* includes and even designs this risky dimension into the learning activity and 'teacherly actions' employed. Success (in my view at least) is engaging and working with the thresholds and tensions discussed previously, and not *necessarily* doing so with a resulting fire or flame achieved. Success – or rather an appreciable outcome of a kindling session is, I think, often articulated by an individual who didn't make fire in a session but who sparked the determination and intention to do so when they have returned to their home or school. When Paul reflects (section 4.2.4) on how the group he participated in didn't light a fire but experienced a very rich, respectful, and fruitful group collaboration process that lacked pressure to achieve, any kind of blame or negative emotion, and realized a high degree of mutual support generated by participating in the shared task. This was (in his own words) a successful or satisfying 'surfacing' from their collaboration.

'Success' is, in short, a very complex and influential *concept* (achievement = fire lit) that can impact on motivation and the practical engagement (doing) with the task in a myriad of ways. This is a topic of immense complexity and one that would require some considerable time and space to do justice to. It is, furthermore, not a theme that is in any way limited to fire-lighting but rather, by giving it attention to it in these deliberations of the kindling task, it opens and invites critical attention to considerations of educational purpose more broadly. Deliberations such as these will be given some further attention in the pages that follow.

Forming an ember – and flaming

With these above caveats on notions of 'success' in mind, if kindlers are to progress to stage four they will have navigated thresholds and tensions described above, they will have achieved, in terms of fire-cræft, the step of 'burning in' (seating the spindle in the hearthboard so that it has created a concave dish by friction produced by the spinning of the spindle so that it doesn't jump out of this when spun), they will have notched the hearthboard to collect the smoking, hot black powder created through friction (pictured right), and they will have been able to sustain the kindling technique long enough to generate an ember.

Figure 34

An ember is a glowing heart or 'coal' in the midst of the pile of black powder ground off the heartboard through friction. It is formed by hot particles of carbonized wood being sloughed off by the rotating spindle and getting trapped in the notch cut into the hearthwood

and the ember pan below. The creation of an ember is an experience that evokes a wide range of responses in kindlers. Awe, wonder and reverence can be apparent in some groups. Panic and a degree of frenzied haste can arise in others (an urgency to transfer the ember into a tinder 'nest' arising from the idea that the ember must be fragile and short-lived). There is a tenderness that emerges in most groups, gestures and expressions that speak of 'nurturing' and careful 'tending' of the ember. Sam described "Ben…giving birth to the fire and I was kind of there supporting it…like a dulla" and she related this to a dream she had had the previous night (after the kindling session she participated in) of seeing a tiny baby in her mother's hands and her impulse to protect it. The association of 'ember' and 'embryo' is made very frequently, and spontaneously, by any number of kindlers.


Figure 35

The tinder nest is a bundle of dry material (straw, grass, hay) with increasingly finer and more flammable materials layered into its top surface (pictured below). From my demonstration, I will have described how to transfer the ember into a tinder nest. A very potent threshold and tension is presented to kindlers at this point – perhaps the most potent of them all. I call it the stage of the 'reversal of the will' (after Kühlewind 2011) as it is at this moment that preparation, care, connection, and the tension between *doing* and *allowing* comes to a particular poignancy. This reversal is evident to the skilled fire-lighter, can be observed to an extent in video documentation of kindling events, and can be experienced as a palpable change in the 'activity space' around kindlers.

If the nest has not been adequately *prepared* (or the tinder is not of a suitable type, or sufficiently dried) the ember that has taken some time and effort to realize can 'burn through' the nest and go out (as happened, in fact, twice for the group working who are documented in files T12, T13, T15 in Code 2023) . This happens if the nest is too loose and airy or was insufficiently organized in a flammable sequence. All kinds of eventualities can occur at this moment that can lead to the loss of the ember, many of them are contingent on how much *care* was given to preparation at the vary outset of the task. A lost ember leads kindlers back into a state of liminality, it can be highly troublesome, and it requires a renewed commitment to the cræft and to each other to take up the fire kit again and set to creating another ember (see reflections in section 4.3.5B).


Figure 36

If the tinder is dry, and the nest has been well cræfted, *care* needs to be taken to not blow on the ember with too strong – or too weak – a breath. This moment requires a very heightened attention for how much to DO – how much to be active in encouraging the fire to 'take' - and how much to ALLOW – how to be very responsive to the situation and attentive to what the ember needs for it to spread into the tinder. I have come to see this threshold as an oscillation between 'my will' and 'thy will' – between *doing* and a *feeling-knowing* of how to proceed, to intuit what fire needs to come to flaming.

A question that I am often left with (and still carry) at this stage of kindling is; do we make fire or do we receive fire? Are we fire-lighters or are we the creators of the conditions for fire to alight?

6.4.5. Stage Five: Tending the Fire

My deliberations and discussions about stage five of the kindling process are sparse. This is not because there is not a lot to consider, analyze and contribute to this stage of the process (there is, a good deal) but because I want to honor the 'lived experience' (van Manen 2016) of what usually follows on the heels of kindling a flame and fire through a collaborative, situated action. After all the negotiations that were necessary to navigate thresholds up to this point, and after numerous tensions have been encountered and – it is hoped – accommodated, there is frequently: attentive silence.

In the following, very poignant passage, Palmer captures in strikingly lucid terms what working with tensions (such as those outlined in previous sections of this chapter) can entail if this process is to be transformative and not 'destructive' in a given context. The reader needs only hold in mind that where Palmer's focus of reflection is on the *intellectual life*, his insights are no less significant for what it means to work with tensions in the context of cræft, in education, and in life generally. We need only allow, for the purposes of this discussion, the idea of a 'cræfting life' to be read where the intellectual life features in this passage.

> Somewhere in the heart of the highest culture of the intellectual life is the notion that you don't have an intellectual life until you know how to embrace ambiguity, contradiction, paradox, and hold the tension. What that requires, I think, is reframing the tension so that we feel that we experience it not as a destructive tearing apart of ourselves, but as an opening of ourselves to some larger view of reality. I am deeply moved by story after story of great scholars who simply held the tension between [the] conventional view of their field and the anomalous findings that they had come across themselves, until that tension broke, drew them open, broke them open to some larger conception of what this piece of the world was all about. (Palmer 1999)

If a fire has been lit and is being tended in a fire pit or hearth, there is very often a sense that some 'larger view of reality', dimension, or domain has been touched, and a silence descends on kindlers who have been touched in this way. This is not an empty silence, or an anticlimax of any kind but a difficult-to-articulate fullness and expansiveness that generally defies wording.

Dwelling in this wordless stage…tending the fire, tired from the effort expended while also filled and energized by the appearance of flames…kindlers often seem reluctant to speak. Anyone who has had the opportunity to sit around a campfire into the evening or night, perhaps while flames give way to glowing embers, will have had some taste of this stage in the kindling process. Rather than see it as an event that *follows from* kindling – if kindling is understood only in terms of managing to light a fire – this stage is where I see kindling encompassing *both* the dissolution of wood 'outwardly' and the emergence of an 'inner' glow in kindlers themselves. Novalis writes "the seat of the soul is there where the

inner and outer worlds meet" and I think the *experience* of what the poet is describing is evident at this point.

Kindlers will eventually describe this stage and state in various ways – but these reflections will inform sections six and seven of this chapter (below). I have witnessed over many years that *articulations* of the encounter with Fire and its flaming forth are preceded by a period of immersion in a wordless, contemplative, and even timeless stage which fire-lighters participate in as a shared space. All too little attention is given to this stage in many contemporary educational contexts, focused as they are on measurable outcomes, quantifiable results, and evaluative modalities. I would go further and state that a highly significant domain of educational purpose is proposed and posited in this stage, one that is difficult to describe (by the very nature of the experience it entails) but which is touched on in discussions of *contemplative education* (as available in, for instance, Zajonc (n.d.), O'Reilley (1994), Palmer (1999) to name but a few).

Figure 37

6.4.6. Stage Six: Speaking Flames

When I sought to understand *from kindlers themselves* what the kindling activity offered them for their praxis, for their views on educational theory, philosophy, and purpose, I wanted to find a way to do so by maintaining the richness and worldlessness of stage five. Analysis, when rooted in intellectual abstraction, reduction and dissociation can all too quickly dispel the experiences of stage five which (in time) kindlers describe (noted in Chapters Four and Five) as 'alchemical', 'magical', 'mysterious', 'sublime', 'sacred', 'spiritual' 'a sacrament' and 'a rite of passage'. In discussions of the Thresholds Concepts Framework, we find the following: "Threshold transformations foster ontological shifts that are associated with both cognitive and affective changes in the individual. They cause the individual to view and experience the world differently in terms not just of the intellectual understanding of an idea but also in the way they feel about, or experience, the world" (Rattray 2016: 67). Such *threshold experiences* are notoriously difficult to describe analytically for reasons that go well beyond the scope of this thesis (Bortoft's in-depth discussion of the contrast between the 'verbal-intellectual' mode of consciousness and the 'holistic' mode of consciousness are relevant here (1996), as are Palmer's reflections in *The Violence of our Knowledge* 1993).

Early on in my facilitation process I turned to poetry and creative writing as a means of gathering impressions from stage five. Poetry's inherently imaginative approach to articulating experience, and its potential for including the affective domain in these reflections, seemed to be a fitting way to gather some initial insights from kindlers who had had significant experiences 'over the threshold'. Novalis proposes in his *Fragments* that 'Poetry heals the wounds inflicted by reason'. My decision to work with poetry at this point

in the kindling process is to hold back on reason's ability to inflict a precise but abstract and even cold lens on experience by staying in the richly sensorial and imaginative realm that kindling evokes. Some examples of poems that have emerged from taking this approach in the sixth stage of the kindling process are included in Appendix E along with a poem (in Appendix G) that I was introduced to in the fire-side reflection period after a session at a school in Forest Row, Sussex: *The Bright Burning*. These poems will not be analysed or dissected for what they might 'mean' – they stand on their own merit as articulations – as 'speaking flames' – arising from the lived experience of kindlers at a very poignant point in their kindling path[5].

I

In renewal,
drawing out movement
shifting, releasing,
are you... here.

Earth
intent drawing inward,
sweat and breath mingling.

Feel it
potential touching close,
calling you,
moving with you.
Wisping smoke
in rhythmic heat,
meeting, melting, melding with your flow.

Focussed caress
between death and life's first breath
one, our time expansive,
dream, in breathing warmth.

Flame in tenderness burst
roaring, inspired intensity in life,
I fall back in
time returns to slow flame
moving, invoke into heated dance,
myriad colour of
love as
expanded light beings,
Bound in freedom
transform in death

V.W.

[5] These poems were written by kindlers in a collaborative creative writing process in groups of three (in the case of poem I & II) or in a larger group composition (poem II) in the form of a 'diamond' poem. These approaches to creative writing are inspired by Mathews (2015).

II

Fire, you tantalizing, elusive being!
You came close to us and we sensed your beginning.
Prayer to the gods to draw you down…
You drew from us our mutual collaboration;
You drew from us patience, perseverance, dogged persistence
And amiable partnership
Feeling the bow, feeling the intention of the other,
Willing the stick to spin.
You were mildly pleased with us and approached, revealing a tiny puff of smoke and a scent of burning embers
But today, no flame.
"Another time," you said, "When you have learnt more thoroughly how to conjure me!"

III

A drop of fire…
…falls
into the
abyss of darkness
lighting the fire inside
generating warmth, light
we feel
elation!

6.4.7. Stage Seven: Restoring the Vertical

I propose that stage seven of the kindling process, as it has been considered in this thesis, includes the realization that a fire has been kindled 'inwardly' as well as 'outwardly' through the kindling occurrence. This is a transformative experience, and it brings with it new ways of being in the world, new opportunities for meaning-making. The comment 'I want to teach maths like fire-lighting' is an example of what I am alluding to here. This comment includes a clear sense of intention and the wish to offer personal transformational experiences (as encountered in the kindling task) to her students – along with discipline specific knowledge and skill.

Figure 38

Greg's reflections on how it was to take the candle lit from the fire they kindled back to the hearth in the teaching space are particularly relevant here (see section 4.3.7). He speaks not only of the extraordinary lengths that he went to protect the flame (against the wind) but the way in which this experience of nurturing the flame, so that it could kindle the communal hearth, as one that will

stay with him (this stage in the kindling process, documented in files X01-X06 in Code 2023 attest to the dynamics that emerge from protecting the candle lit through the kindling task). This, in my view, is what *education-as-kindling* attends to, aims and strives for – to enable would-be-kindlers to learn the stages to light their 'fire', to do so relationally – i.e., with others – and to know how to tend and sustain their flame in the face of opposition or events that might extinguish it. There are a number of ways in which this stage can be theorized.

Langlands refers to cræft as being "not just a knowledge of making but a knowledge of being" (2017:21). He goes further and posits that "the labour and work associated with *making* (is) comparable to the spiritual strivings of philosophy" (2017:21). As with others concerned with *making* as "the art of becoming a human being" (Richards 1989) Langlands states that "making has a spiritual element to it…making fits within a wider understanding of who we are and where we are going". Fire-making is – in this light – making that can elicit a very particular experience of our own agency (Crawford 2010) and 'is-ness' (Richards 1989) while also bringing us close to, or even in touch with, "the irreducible mystery of being human" (Palmer 2016). When metaphors about kindling are brought to bear on questions of educational purpose, it is *this potential* – along with the thresholds and tensions that require navigation along the way – that I propose needs much greater attention than it is usually afforded. In *What is Education For* Tate muses on why this aspect of educational purpose is likely largely unaddressed in contemporary educational settings: "It is because education is a 'religious problem' that we avoid talking about what it is for. As a society we avoid such questions. Unlike previous societies we lack a shared account of who we are, where we came from and where we are going" (Tate 1999:3).

These deliberations lead me to consider a final – and overarching - tension that emerges from this study of kindling and how it might inform questions of educational purpose. This is a spiritual:material tension that emerged right from the very outset of this enquiry in my own 1st person reflections on how fire featured in my biography (see section 2.1.2). I will begin this final discussion of tensions (in this thesis at least, as in no way has this topic been addressed comprehensively) with musings of my own before turning to consult perspectives drawn from other sources.

6.4.7a Material:Spiritual

Defining 'spiritual' is notoriously difficult. Likewise, many of the terms that emerge from fire-lighters' reflections (alchemical, mystical, magical) are equally difficult to define or gain a meaningful grasp of as many of these have suffered under the dominantly materialistic ontologies of post-Enlightenment thinking. I will – in what follows – strive to gain some insight into what is being described when kindlers reach for these terms by consulting a number of texts. I have chosen to quote some of these at length and stick to the author's original formulations (rather than paraphrase) as it is in the wording chosen that the difficulty of defining these terms becomes apparent while some insight into their essence also emerges.

In chapter two I write: 'Fire once figured centrally in the cultural and spiritual life of all people, in every corner of the world. Fire was alpha and omega, worshiped and feared in equal measure as *deity* – as spiritual entity active in the birth of worlds and their inhabitants, and agents of their destruction'. This statement will be filled out some more in what follows, as some of the reflections from kindlers allude directly to this observation.

Central to the seven tensions described in the Delors report (1996) is the tension between the material (or 'worldly') and the spiritual (or the 'moral'). The authors of the report used the following language to discuss the 'spiritual' and its significance:

> It is thus education's noble task to encourage each and every one, acting in accordance with their traditions and convictions and paying full respect to pluralism to lift their minds and spirits to the plane of the universal and, in some measure, to transcend themselves. It is no exaggeration on the Commission's part to say that *the survival of humanity depends thereon*." (Delors *et. al.* 1996, Tawil and Cougoureux 2013)

Fenton writes (with words that in places are almost exactly the same as those which kindlers used in their reflections in Chapter Four) that fire-lighting seems to provide;

> a 'peak experience' of relationality and meaning, expressed as feelings of joy and elation, deep satisfaction and a feeling of connectedness to both the essence of mankind (often described as 'primal') and the natural world. That joyful feeling was commonly described as numinous, expressed in transformational terms such as 'magical', 'primal' and 'alchemical'. They felt connected or reconnected to the idea of an essential humanness . . . giving them a feeling of security, confidence, pride, self-reliance, and freedom . . . a new, cathartic connection to the natural world, expressed as an expansion of their usual human relationships, to incorporate a subjective, living nature (Fenton 2016).

The theme of connection re-emerges in this passage, though 'filled out' now to point to connections to a domain of our 'essential humanness' as well as to 'the natural world' as was discussed in the first section of this chapter. I will return to this point and discuss it further in due course.

What of terms encountered in kindler's reflections such as 'magical' and 'alchemical'? In the words of art historian James Elkins, "Alchemy did not describe a world by means of scientific principles, such as atoms and molecules, but describes one of substances, which were known by what they looked and felt like, and by following what happened to them as they mixed together, heated or cooled" (Elkins 2000). In a passage that encapsulates quite lucidly what 'skillfulness' means in the context of *making* as this is discussed in this thesis, the following reflection is noteworthy, "Skill, in this sense, synthesises the craftsman's skills of knowing what materials do, the alchemical skill of combining substances to create new forms and elements and, for example, the dancer's, martial artist's or gymnast's skill of movement and kinaesthetic awareness" (Downey 2010, p.36). I have discussed the challenges and potentials for revisiting 'alchemy' in epistemological, ontological, and methodological terms and its possible contributions to education and agriculture in previous publications (Code 2011, 2014) and will not therefore reiterate those perspectives here. It is noteworthy, however, that kindlers themselves reach

for the term ‘alchemical’ when trying to articulate the experiences they have in fire-cræft which is a *mutual transformation* of materials and the maker (or cræfter).

Reflections from two teachers are particularly relevant in the context of these deliberations as their reflections after the kindling process directly referenced their cultural heritage and spiritual/religious disciplines. A teacher of Oneida heritage (quoted previously in section 2.2.4) reflected: ‘we do not blow on the embers during fire lighting. In our creation story our Creator blew life into us, the humans. He blew into our human form and that brought us to life…the Creator is the only being that can breathe life into something.’ This contribution, significantly, opens reflections on how practical dimensions of the cræft can be grasped using different ontological lenses – the ember needs to be blown on so that it sets the tinder a-glow and reaches ‘flash point’ where it bursts into flames – but this has become a purely physical or mechanical aspect of the cræft where it was once done with reverence and a sense for the sacredness of the event.

The second reflection that deepened this dimension of kindling for me was given by a Muslim teacher whose reflections (received by email) are reproduced in full below due to the particularly illuminating choice of phrasing she used in her text. She wrote:

> Our team wasn't successful in welcoming the flame. I was the bloody knuckled one :-) and considered the wounds a badge of truth, because I honestly tried!! And, either you did it, or you didn't. I found the experience meditative, because a moment of lost focus caused the whole enterprise to collapse -- and that was three people's coordinated meditation on one task! I loved it. But, I also know we jumped into the task without meditating on preparation or true intentions about what we really needed to learn, though in the process learned quite a bit. Our kindling, bow, spindle, and board were already waiting for us, so we didn't treat them (or maybe each other) as sacredly as we should have. And, in retrospect, it was kind of like chasing the elusive and painfully sought "Beloved"-- we yearned in our hearts and expended energy for it, and wished to keep on the quest. I think your musings are quick-to-catch, and have caught my mind as well :-) I know that the deeper concept of love, as part of esoteric (or the spirit of) Islam, is one that burns (attracts, consumes, transforms), and an individual (for true happiness) aims to be consumed with (divine) love, and true earthly love is a symbol of this. I think the halo of fire around Muhammad and Gabriel in traditional paintings[6] symbolize the achievement or intense existence of "Love", and these are my own thoughts. Following what you stated, I think when we lost the sacred attitude toward fire, and reduced it to material terms, we also reduced love to merely a superficially material and fleeting endeavour --one that doesn't lift our spirit to higher states where we connect to each other and the divine. It's affected our attitude toward fire, and also to each other (humanity), and both together are calamitous. We need to reclaim the old symbolism for the future. I hope I can utilize my energies for this intent! Thank you again! (F.Khan, 2016)

Restoring the Vertical

It seems clear to me that the preceding passages indicate quite clearly that what is being addressed in terms of a spiritual:material tension is one that is not *overcome* in the kindling process - in terms of giving preference to either the one or the other - but that these

[6] See Appendix F

'domains' (if they can be designated as such) are incorporated or perhaps brought into relationship by kindlers actively engaged in the kindling process. This observation invites a possible way to theorize what kindlers are describing when they speak of a process being 'spiritual', 'magical' or 'sacred'. A lens which I think is particularly apt for theorizing this step for my own deliberations is one that is not specifically oriented toward educational concerns or questions of purpose but is – on the other hand – very directly so due to the breadth of insight it offers with regards to many of the challenges we face today (as outlined in the introduction). I refer to E.F. Schumacher's' proposal for a *restoration of the vertical* if humanity is to avoid and address the 'calamitous' nature of the many problems that we are encountering at this time. This phrase is drawn from Schumacher's posthumously published work *Guide for the Perplexed* (2011). A brief summary of this text follows, along with a discussion of the concept – which I propose is in fact a *threshold concept* – 'ontological discontinuity'.

Schumacher discusses epistemological and ontological shifts that were seeded during the Enlightenment which have largely been adequate to gaining insight into the *inanimate* domains of the natural world via the theoretical lenses and methods of physics and chemistry, but which are mistakenly assumed to be up to the task of gaining insight into virtually all other domains and dimensions of our existence. In his view, this is a great error:

> The extraordinary thing about the modern 'life sciences' is that they hardly ever deal with life as such…but devote infinite attention to the study and analysis of the physico-chemical body that is life's carrier. It may well be that modern science has no method for coming to grips with 'life as such'. If this is so let it be frankly admitted: there is no excuse for the pretence that life is nothing but physics and chemistry. (2011:29).

Schumacher develops this argument further to say that ways of knowing suited to the inanimate world (such as physics and chemistry) but unsuited to 'life as such' are even less suited to understanding 'sentience' (as in 'awareness of and responsiveness to one's surroundings') or self-awareness and self-consciousness (awareness that one is aware) (ibid:28). Schumacher uses the term 'ontological discontinuity' to describe the result of the great reduction that has resulted from the application of analytical and abstract ways of knowing to the complexity of Nature, a result which he also describes as a loss of our orientation to a vertical dimension that was once understood – or rather experienced – as different Levels of Being. Schumacher's view is that the materialistic scientism that took hold of the intellectual life of the industrialized world since the Enlightenment arose from a "determination, (if) not to say fanaticism, to get rid of the vertical dimension" (2011:20). In contrast, Schumacher points to the fact that in many traditional cultures it was "not only meaningful but of essential importance" to distinguish between lower and higher things and 'Levels of Being', but that the notions of 'higher' and 'lower' lost any meaning *qualitatively* once quantification, objectification, and abstraction became the dominant modes of understanding the world and the human being (ibid).

Schumacher is by no means alone in his diagnosis of contemporary developments in our ways of knowing and being in the world. Abbott, in his carefully crafted and highly poignant allegory *Flatland,* has succinctly explored the implications of the loss of dimensionality that resulted from a collapsing of the vertical dimension, as well as epistemological and ontological features of this loss (Abbott 2015). He captures the great difficulties presented to 'Flatlanders' in grasping – even conceiving of – dimensions 'higher' than those that they inhabit and are habituated to in all aspects of their lives and social interactions.

Abbott is clear that strategies are needed if Flatlanders are going to accept dimensions which are not apparent to, and are in fact occluded by, their habituated modes of cognition – and his allegory explores how a visitor from another dimension attempts to awaken the story's protagonist (A Square) to other dimensions. In doing so Abbott captures quite succinctly the challenges of attempting this task in our own 21st century society. Square's would-be teacher in dimensionality (A Sphere – which Square does not recognize at first because of the incongruence between his view of dimensionality and the as-yet unexperienced third dimension) tries 1) *argumentation* (unsuccessful), 2) *demonstration* (unsuccessful), 3) *transformation of perspective through first-hand, lived experience* (successful…but very troublesome), and – against said teacher's warning – 4) *communication of new revelations to fellow Flatlanders who haven't had the experience* (unsuccessful and dangerous). This thesis has attempted all of these methods (!) and the invitation was placed at the outset of this thesis for the reader to 'have a go' at kindling on the basis that transformative experience is crucial to grasp what is otherwise attempted through discursive means.

A further example of what I refer to when I speak of a 'vertical dimension' can be found in Lehrs' (2014) description of the place that the *needfire* once played in pre-Enlightenment culture. This was a time still informed by the Aristotelean theory of the Four Elements (Müller 2018, Scaltsas 2007), which informed medicine (the humours and temperaments), agriculture and much else besides. In this worldview Fire was the 'youngest' of the Elements and of the Four it was the most spiritual. Lehrs (2014) writes;

> '…if sickness broke out among the cattle, a widespread practice was to extinguish all the hearth-fires in the district and then to kindle with certain fire rites a new fire, from which all the local people lit their own fires once more. Heavy penalties were prescribed for anyone who failed to extinguish his own fire – a failure usually indicated by the non-manifestation of the expected healing influence. In Anglo-Saxon speaking countries, fires of this kind were known as 'needfires'. The spiritual significance of these fires cannot be expressed better than by the meaning of the very term 'needfire'. This word does not derive, as was formerly believed, from the word 'need', meaning a 'fire kindled in a state of need', but, as recent etymological research has shown, from a root which appears in the German word nieten - to clinch or rivet. 'Needfire' therefore means nothing less than a fire which was kindled for 'clinching' anew the bond between earthly life and the primal spiritual order at times when for one reason or another there was a call for this. (Lehrs 2014)

Only echoes of the sacred role fire has played in bridging the 'earthly life and the primal spiritual order' (restoring the vertical) remain today, though it was once widespread and featured in a wide array of cultural and spiritual practices. One echo of

this view of fire is clearly evident in Fenton (2016) where she discusses kindling in the context of radical pedagogy and links it to Freire's views on educational purpose:

> not primarily as a survival technique for remote emergency, but rather as a pedagogy for developing the 'ontological vocation to be more fully human' (Freire 1970, p.74), enabling the learner to be a re-creator rather than a spectator, not merely in the world but with the world. This process of 'reflection and action upon the world in order to transform it' provides the praxis that Freire calls 'conscientization' (1996).

Returning to consider Schumacher once again, his proposal that a 'vertical dimension' once served as an organising principle for orientation in the world in which we live, is at the same time a diagnosis that its loss has led to *disorientation* in and between different aspects of the social field, of human:nature relations, and of our orientation to spiritual:material domains.

As a final contribution to perspectives on the potential for what I have (after Schumacher) called the stage in kindling of a *restoration of the vertical*, Gidley's discussions of postformal education are worthy of note. Gidley's central focus is on the notion of the evolution of consciousness, drawing on the many scientists, philosophers and philosopher-poets who have contributed to deliberations on this term over the last few centuries (such as Herder, Goethe, Hegel, Schelling, Novalis – historically – and in more recent times Gebser, Steiner, Aurobindo, and Wilber). Gidley's text addresses the complexities and challenges this notion presents (a troublesome threshold concept?) but also takes pains to give it contemporary relevance and highlight the lack of attention it receives in contemporary academic educational discourse on educational purpose. It is beyond the bounds of this text to undertake a critique of Gidley's proposals regarding 'postformal education' but it is important to draw attention to this work and its "…resolve to rehumanise education so its core purpose becomes once again to develop whole human beings who care, who have and respect life, who exercise wisdom and who have the courage to voice their truths... " (2016:267). The author does not explicitly discuss approaches to addressing these aims such as the embodied, experiential, and collaborative task I have discussed throughout this text. This is an omission, I think, in an otherwise bold and risk-embracing study that attends to dimensions of human experience often not adequately discussed in educational theory today.

6.4 Chapter Summary

In this chapter I have taken some indicative steps toward addressing questions of how kindling can contribute to pedagogical processes and purpose through an analysis of different stages of fire-cræft. These have – of necessity – only been 'steps' taken, and they by no means represent a comprehensive evaluation of what the task of fire-lighting contributes to questions of *why we educate* – of educational purpose – let alone to the highly significant question of 'who' it is at the heart of education (which I will take up in Chapter Seven and Eight). Each of the stages discussed in this chapter would benefit from deeper analysis and deliberation. When a kindler reflects that "fire-lighting elicits fundamental explorations and discourse which has no parallel in any other professional trainings of which I've been a part"

I can only concur. Although only initial forays into these 'fundamental explorations' have been considered in this chapter, a sufficient overview has perhaps been provided for the multi-dimensionality of what may seem – on first encounter – to be a deceptively straightforward undertaking that leads from the practical considerations for what plants to pick for suitable tinder through tensions, thresholds, and troublesome territory, to encounters with the pitfalls and potentials inherent in the art and cræft of becoming human. I propose, at this point, that Langland's description of cræft can be expanded upon to include the aspects of kindling discussed in this section, namely a "hand-eye-head-heart-body co-ordination that furnishes us with a meaningful understanding of the materiality" *and spirituality* of the world.

In numerous passages above I have referred to kindling as an 'instance' of a teacherly action and this terminology has not been chosen lightly and nor has it – as yet – been adequately defined. By using this term, I mean that kindling is not just an 'example' of a teacherly action that can restore the vertical dimension but that it is one – for me – with particular potency and potential for doing so. I will elaborate on this observation in the following chapter. These final deliberations will also focus attention on the *principles* that I think can be distilled from the stages in fire-cræft discussed in this chapter for the articulation of a theory of education that I have referred to in several places previously as education-as-kindling.

Chapter Seven

Figure 39

There is little connection between the physical causes of a thing and its meaning. Thus, in investigating the phenomena of nature, exclusive emphasis on physical causes and effects involves a corresponding inattention to their meaning. The meaning of a process is the inner being which the process expresses. The denial of any such inner being to the processes of nature leads inevitably to the denial of it in man himself.

Barfield, 2006

7. Introduction to Chapter Seven

In this penultimate chapter I return to questions of a personal nature that were stated in Chapter One of this thesis and have yet to receive focused consideration. These questions include the following: Why do I find fire-craft so captivating and all-encompassing as an activity? What 'hunch' lay behind my idea of introducing the kindling task into adult education contexts? How is it that fire lighting has become such a significant activity – a touchstone – for so much of my praxis as an adult educator?

An answer that draws close to these questions, having considered the *stages* of kindling as I have done (in Chapter Six), is that kindling is "an instance worth a thousand bearing all within itself". I have alluded to this phrase previously, in several passages of this thesis, and in this chapter I will discuss where this phrase comes from and why I use it in relation to kindling as I have considered it in these pages.

7.1 Teaching Maths like Fire-Lighting

After a kindling session held in Toronto, Ontario, a teacher (quoted in section 2.2.4) stated that "Fire-lighting has given me an experience of how I want to teach…I want to teach math like fire-lighting." A statement such as this invites the question 'how can an activity undertaken with four bits of wood and a piece of string contribute to *methods* or approaches for teaching math? Or – for that matter – for teaching other subjects?' It does so, I propose, because the teacher who offered that reflection had a first-hand experience of *principles* inherent in fire-cræft (initially outlined in Chapter Six in an analysis of the stages of fire-cræft) that give kindling both a uniqueness and specificity *as well as* relevance for considerations of pedagogical concerns in wider terms.

Kindling is 'an instance' in that it is a very particular example of a cræft which situates in specific places and times, is undertaken with a distinct set of tools, materials, and techniques, and it never unfolds in the same way twice. Kindling is also undertaken with distinct features (types of materials used, degrees of preparation, favoured sites, preferred techniques) that are closely connected to the character of individual kindlers. Specificity and contextuality are thus intrinsic to fire-lighting as a cræft – these warrant the designation 'instance'.

Kindling as educational occurrence is – at the same time – 'worth a thousand' in the way in which it engages and coheres a very wide range of philosophical educational concerns. Throughout this thesis I have drawn on the work of different educators who discuss their own cræfts and what they draw from these for how *making* can support the fullness of human flourishing. These are also 'instances' in my view (the process of centering the clay on the wheel in pottery for Richards (1989), motorcycle repair for Crawford (2020), distinctive landcrafts for Langlands (2017)) that engage with unique materials and distinct practices and *also* encompass significant philosophical considerations for educational purpose. The phrase 'instance worth a thousand' as I use it in this thesis is drawn from the work of J.W. Goethe (Seamon & Zajonc 1998, Bortoft 1996). In the following section I will describe how it came to feature in Goethe's studies of the natural world and why I think it

can fittingly apply to teacherly actions that inform progressive educational theory as this thesis does in terms of *education-as-kindling*.

7.2 'An instance worth a thousand'

Physicist and philosopher of science Henri Bortoft writes in his extremely lucid study of J.W. Goethe's scientific method, *The Wholeness of Nature* (1996):

> For Goethe, the primal phenomenon was a concrete instance - what he called "an instance worth a thousand, bearing all within itself". In a moment of intuitive perception, the universal is seen within the particular, so that the particular instance is seen as a living manifestation of the universal. What is merely particular in one perspective is simultaneously universal in another way of seeing. (Bortoft 1996:22)

It is easy to misunderstand this phrase as it sounds not unlike the approach taken so often in science where a 'natural law' is identified in a particular process of enquiry (often through abstraction and complexity reduction (Biesta 2010)) and is then assumed to be a law that can be applied universally across all terrestrial and even supra-terrestrial contexts. This tendency has been critiqued not only on epistemological grounds but also for the serious ramifications it can have when applied to the complex contexts of the non-controlled and non-reduced lifeworld. The psychologist Victor Frankl (quoted in Schumacher 2011) critiques this scientific approach in the following passage: "The present danger does not really lie in the loss of universality on the part of the scientist, but rather in his pretence and claim of totality…what we have to deplore therefore is not so much that scientists are specializing, but rather the fact that specialists are generalizing". From this passage it is clear, when talking about 'an instance worth a thousand', that a pitfall similar to that discussed by Frankl is before us. Avoiding this pitfall is not just a matter of being cautious with semantics, which it is, but is also a question of being aware of what *way of knowing* intuits 'an instance' as a uniqueness which does not exclude wholeness but is one in which the part and whole mutually relate.

In his essay *Authentic and Counterfeit Wholes* Bortoft provides a number of examples in order to clarify the distinction between *an instance* and its relation to (and distinction from) wholeness (1996, pp 3-23). One such example given by Bortoft is in the properties of a holographic plate as distinct from those of a photographic plate or slide. If a photographic plate is broken, each piece of the original plate will contain a fragment of the image depicted on the whole plate, and in no way could the original image be generated from any one separate piece alone. This 'instance' is thus distinct but also isolated and inadequate to giving access to the whole. If, on the other hand, a holographic plate is fragmented, due to the nature of holographic image technology, the "pervasiveness of the whole optical object throughout the plate" (Bortoft 1999) means that the whole image can be reproduced from the distinct fragment (and in its full three dimensionality), with a loss of resolution being the main resulting feature of the fragmentation but not a total loss of the whole holographic image.

Goethe's use of the term 'an instance worth a thousand' arose from his studies of plants, undertaken over many decades. Through careful observation of the morphology of plants (i.e. the way their forms can be observed to change over time, referred to by Goethe as the plant's *becoming*) he came to the realization that unique and specific instances of plant morphology provided him with insight into broad and encompassing *principles* of plant growth active in the plant kingdom as a whole. This was, to reiterate, not an act of 'generalization' from observed individual cases, but an insight arising from a way of seeing/knowing – exact sensorial Imagination – yet to be given the credit it deserves in either the history, philosophy, or practice of science today (Amrine 1990, Zajonc & Seamon 1998). In the following passage Bortoft uses Goethe's term 'Urphanomen' (see Hegel 1984) to describe the difficult-to-grasp relation of part to whole in the designation 'an instance worth a thousand'. The Urphanomen has been defined as 'archetypal' or 'primal' phenomenon;

> In terms of the category of wholeness, the primal phenomenon is an example of the whole which is present in the part. It is the authentic whole which is reached by going into the parts, whereas a generalization is the counterfeit whole that is obtained by standing back from the parts to get an overview. Looking for the Urphanomen is an example of looking for the right part – i.e., the part which contains the whole. This way of seeing illustrates the simultaneous, reciprocal relationship between part and whole, whereby the whole cannot appear until the part is recognized, but the part cannot be recognized as such without the whole. (1996, pp22-23)

Goethe's search for the primal phenomenon also featured in other areas of scientific enquiry to which he turned his attention, including botany, meteorology, and animal morphology (Suchantke 2009, Schad 2019, Lehrs 2014, Seamon & Zajonc 1998). I am using this phrase in a somewhat different sense in this study of the cræft of kindling and its contributions to education but one which I find fitting in my experience of kindling and in the reflections of many of those who have participated in fire-lighting sessions. My designation of *kindling* as an instance worth a thousand in educational considerations is based on the following.

Fire-lighting unfolds through a number of *stages*, discussed in Chapter Six, which reveal *principles* (discussed below) that are both unique to this cræft and informative for educational praxis and purpose in broad terms. The challenge in grasping the notion of 'an instance' is that neither the specificity of fire-craft nor the broadly applicable principles it entails take precedence over the other. It is apt for a teacher to say 'I want to teach maths like fire lighting' because of her realization that the principles (not the distinct elements of fire-cræft practice) she encountered in the kindling process are transferable to her own discipline. The fact that kindling has been employed as a metaphor for good education since at least the time of Plutarch also points to its poignancy as an 'instance' of significance. In the sections that follow I will outline some of the principles derived from this study of kindling that I see contributing to deliberations of educational purpose and praxis that lie at the heart of this enquiry. These principles, considered in their 'wholeness', fill-out metaphors of kindling that have become increasingly empty and posit the *fostering of full human flourishing* as an educational purpose fitting for 21st century education to address.

7.3 Principles in Kindling that inform a theory of education-as-kindling

7.3.1 Cultivating Connection and Care

Around the edges of our contemporary educational landscape – still largely dominated by objectives of 'human capital accumulation' and its accompanying credentialism (where "learning equals earning" (Brown, Lauder & Cheung 2020)) there is an emerging discourse and call for education to attend to often-neglected human capabilities. These are, among others, capacities for *caring* (Hoffman 2020), for *connection* (Sobel 2004, 2006) and for taking *responsibility* for how our ways of knowing and being impact on the human and more-than-human domains in which our lives unfold and depend (Schumacher 2011, Gidley 2016, Stibbe 2021, Code, L.B. 2020). These attributes of 'being human' have been increasingly side-lined under a combination of scientism – with its one-sided pursuit of *objectivity* (radical detachment) – and epistemologies rooted in abstraction and reduction (Palmer 1993, 1999).

Coupled with an ever more entwined marriage between science, technology, and digitization, *care* and *connection* are squeezed out of increasingly de-humanized social spheres (Kahn 2017) which are becoming populated by more and more 'atomized' individuals, isolated under the shaping influence of our own devices (Desmet 2022). An emphasis on competition rather than collaboration in economic interactions (Land 2016, Perlas 2019, 2003, Raworth 2017) and the promotion and contortion of notions of individual freedom have – furthermore – largely placed human appetites at odds with the ability for these to be met either equitably or adequately by a planet of finite resources (Berry 2008).

Care and *connection* emerge in this study as being particularly relevant and significant to cultivate in relation to the lifeworld, as neglect of our environs has contributed to the loss of biodiversity, the deterioration of the quality of air, water, and soil in virtually all parts of the globe. Education-as-kindling describes an approach to education which places the cultivation of *care* and *connection* central to its purposes, along with attention to situating in context. These foundational principles help to 'locate' participants in the educational process in ways that counter the increasing 'placelessness' that is a feature of so much education today.

7.3.2 Navigating Thresholds

Education is increasingly becoming a transactional and transitory encounter (Powell & Wanic 2022) based on either implicit or explicit contracts, wherein "the learner is constructed as a consumer of services" (Land 2016). A consumptive disposition tends to want to acquire rather than change, to be stimulated rather than to self-initiate, to be drawn by changes in style, menu, or 'look' but not to go about the often uncomfortable processes of self-transformation (Desmet 2022). Education can, however, be based on encounters between people, place, and the more-than-human world that *mutually transform* – where transforming means to grow, adapt to new situations, events, and the needs of others. Education that is transformative presents those who participate in educational 'occurrences' (Oliver & Gershman 1989) with thresholds – both concepts and experiences – that are usually

experienced as being troublesome (Land 2016), can lead participants into states of liminality, and thus inherently entail a degree of risk (Biesta 2016). The risk being taken by including threshold experiences in educational processes is for the evaluation, and possible reorientation of epistemological and ontological perspectives (Land 2016). The avoidance of these thresholds and troublesome aspects of learning are, however, increasingly common. Due to ways in which 'student-centred learning' is sometimes understood and distorted by the previously noted commercialising and commodification of education – 'student satisfaction' has essentially become about avoiding student *dissatisfaction* (Powell & Wanic 2022). However, "a transformative educational experience is supposed to be the point of a university education. Students deserve opportunities for challenge so that they can develop the necessary strength of mind and character to meet the myriad challenges they will inevitably face in the higher-stakes contexts of post-university life" (ibid). The fear that troublesomeness arising from educational processes that challenge leads to dissatisfied students is, in light of the above author's analysis, potentially undermining opportunities for education to contribute to the development of "agency, self-efficacy and self-regulation "(ibid). These will be neglected through a fear that troublesome aspects of education will make for discontent amongst students which will, in turn, impact negatively on national metrics for student satisfaction.

If a 'good education' (Biesta 2008) is to be about lighting fires and not filling pails it is evident from an experiential study of the cræft of kindling that for this metaphor to have any substance at all in practice, it will include (and not avoid) the troublesome and liminal features of numerous thresholds. When these are designed as threshold *experiences* that include technical, physical, emotional, and cognitive elements (a "hand-eye-head-heart-body co-ordination" (Langlands 2017:22)) a principle emerges which has variously been termed whole-person education, integrative education, or holistic education – an education that addresses the whole human being.

7.3.3 Working with Tensions

Tensions, as encountered in the kindling process and in numerous other cræfts, can be embraced as opportunities to develop capacities for working with "ambiguity, contradiction, (and) paradox" (Palmer 1993). Tensions are often framed as hinderances to progress or development, as inconveniences to be overcome (Delors 1996) or avoided. Tensions can, however, give rise to new perspectives (Palmer 1993) if 'dwelled in' and learning to live with tension is a capacity that education can give much more attention to.

In the context of cræft, an education in navigating tensions is offered by the 'intelligences' (Richards 1989) of the materials, the processes, and the demands that these place on the practitioner's own (multiple) intelligences. These tensions also offer *makers* experiences of a certain kind of 'lawfulness', of non-negotiables which are not easily circumvented but which provide dependable frames of reference thereby. In fire-craft, for instance, the tension of the bow is either too tight or too loose. The tension between too much downward pressure on the spindle and too little might literally be the gateway to fire or

freezing. Tensions considered in the context of other cræfts offer further insight into the affordances these learning processes provide, into the accommodations they require (Crawford 2010). Forging and welding temperatures of iron, for example, cannot be worked around by the whim of the practitioner. Each metal has its unique relationship to either malleability or fixedness, and makers need to accommodate to these if they are to be shapers in a metallic medium. There are tolerances in these tensions, but also limits to how far they can be manipulated or managed in the cræfting process. The unique features of different cræfting processes are great teachers for our own working with tensions, for these dynamics are not just features of materials, tools, and techniques, they 'map' into the inner life of the practitioner, infuse our language and our soulcraft (Crawford 2010, Code 2019b) in precise ways to define, guide or identify transformative states or stages.

A principle that emerges in a study of tensions in collaboratively engaged kindling 'events' is that there is a meeting between 'stuff' and soul, between matter and meaning, and including the transformation of 'stuff' in our teaching can contribute greatly to how we learn to navigate our own soul transformation – as individuals or as a society. "The seat of the soul is there where the inner and outer worlds meet" writes Novalis (Stoljar 1997). Examples of what can arise from this meeting are evident in our language. To speak of 'tempering' is to refer either (or both) to the process undertaken in the forge at a particular point in the cræfting of metal and to the management of moods like anger, which can flare up destructively unless they are appropriately directed. Centering the clay on the wheel is both mirror and method for the potter's capacity to centre themselves. The clay teaches *us* that to become centred is to be 'inwardly' oriented toward a dynamic 'centre' while also being situated in relationship to our surroundings. To centre (as verb, not noun) is therefore to be in a dynamic state of being poised between point and periphery, core and context, self and other.

Learning to orient ourselves to tensions and to develop 'negative capability' -"capacities (for) being in uncertainties, mysteries, doubts, without any irritable reaching after fact & reason" (Hebron 2014) is an affordance of cræft processes and it is particularly potent in kindling. Understood as an educational principle and deeper purpose for teacherly action, learning to navigate tensions warrants increased attention at this time, as tensions are increasingly prominent features of our interactions socially and with our environment. An engagement with materials and making, and the tensions inherent to these, has increasingly been dropped from educational curricula around the world (Crawford 2010) and this has contributed to the impoverishment not only of the hand and body but also of the heart and mind.

7.3.4 Reversal of the Will

I have discussed, in section 6.4, the notion of the *reversal of the will*. What I mean by this is particularly noteworthy in the kindling cræft at the point where fire-lighters have managed to generate an ember through their collective intention and physical exertion. This *doing* approach to the task needs to give way or make space for an *allowing* gesture to arise.

There is an openness that is needed to respond to (let alone to acknowledge) "the intelligence of fire" (Richards 1989) – to intuit what fire needs in order to flame forth and to make the many fine adjustments necessary for it to 'take'. It is for this reason, for the fact that kindlers need to accommodate to fire's needs and not impose their own wills on it, that I don't think we *make* fire at all. I think, at best, we can create the conditions for fire to alight and we do so by dancing a fine line between *doing* and *allowing* as an ember is encouraged by the kindler's breath to alight. The reflection that 'the Creator is the only being that can breathe life into something' is pertinent to reiterate here. From this deep insight of the Oneida tradition, we need at this point in the cræft process - and I am proposing that there is a similar event in 'good' educational process more broadly - to 'get out of the way' while still being, paradoxically, present and engaged. I have referred to this as a *reversal of our will.*

The reversal of the will is not dissimilar to the 'aha' or 'light bulb' moment discussed in a wide range of educational contexts (Kiley 2015, Percy 2017) which is often preceded by 'toil and trouble' (Land 2016), liminality (Kiley 2015), and a wilful intention or involvement that has been actively engaged in trying to solve a problem or resolve an impasse. These impasse states can be in either cognitive domains (Ovington, Saliba & Goldring 2018) or encountered in practical i.e., embodied contexts (Crawford 2010). Fire-lighting is a powerful instance of a process that cultivates our capacities and skills both to navigate the resistances on the way toward this stage of the reversal of the will, and it also enables us to learn the knack of 'getting out of the way' for insight to arise, alight, or be kindled.

At this point I want to return to questions of human ontology posed in the opening chapters of this thesis. The previous deliberations contrast starkly with a view of the human being that has so often dominated educational purpose in the last centuries (and continues to do so today), i.e., the previously discussed Robinson Crusoe-like persona, able to survive in isolation from all others and able to fend for him/herself in a hostile world. The fierce independence, struggle for autonomy and the supposed need to be the highly rational author of one's own destiny woven into this mythological 'individual' can, however, go much too far. This view of what it means to be human can lead to profound isolation, 'atomization' (Desmet 2022) soul-crushing depression and any number of destructive behaviours that can ultimately lead to self-destruction. It can, equally, lead to profound arrogance, a sense of standing apart, and perhaps above, all others who have not succeeded in the great game of the survival of the fittest. Considering education-as-kindling, however, a principle availed by this stage for educational purpose in broader terms is that 'you are therefore I am' (Kumar 2002). It is an essential attitude and ability, a knowing when to surrender, or to give-away, in order to allow something that is more-than-ourselves to touch us and transform us. When kindlers reflect on the moment that flames alight in the tinder as being 'magical', 'alchemical', 'spiritual' they are using language in a precise way, but in ways that are difficult to understand unless the experiences being described have been encountered for oneself. These experiences are – in fact – notoriously *difficult* to describe, which is why the encounter with an 'active absence' (Bortoft 1996) and its transformational affordances often gives way to silence.

7.3.5 A silent attending

Educational attention all too frequently becomes filled and focussed on the 'what' of the teaching and learning process; lesson plans, learning outcomes, evidence, assessment criteria, benchmarks, outputs, deadlines, high stakes tests, credentials, qualifications…and there is often too little accommodation for either the reversal of the will or for contemplative silence (Sarath 2015, Zajonc 2009, Remen 1999). To parody this approach in the context of this discussion it could be imagined that the learning outcome 'can light a fire with a traditional fire bow' is achieved once there are flames in the hearth. Job done. There are many assessments that could be devised to validate this success. Certificates for fire-lighters can be produced, league tables created. But this is evidently not the way or 'why' I teach kindling in educational contexts. Kindling has, in light of all of the discussions to this point, become an 'instance worth a thousand' in my praxis because it so potently leads participants (facilitators and kindlers alike) to experience a dimension that is not often acknowledged in discussions of educational purpose today and one that does not need quantifying. We struggle to find the language for this dimension and truly transformative encounters with it can render us speechless: "the *essence* of things is beyond logic and cannot be grasped..." (Desmet 2022). The challenge to articulate what such transformative encounters entail should not be interpreted as an 'emptiness' – quite the contrary. It is often experienced as a 'fullness-for-which-there-are-no-words-and-no-need-to-speak'. There is no physical product, no outcome, no measurable manifestation of this stage of education-as-kindling but it is, I would argue, packed with potential and creative possibility.

For education to really be about 'kindling' the incessant 'filling' that is the hallmark of so much education today needs to pause at times - particularly if participants in educational 'occurrences' have encountered thresholds, entered liminal states, and are reorienting *themselves* as a result. The ontological and epistemological shifts that these experiences can afford need time to be accommodated. The image of a group of kindlers gathered around a fire that they have helped awaken, sitting in silence as they watch the flames dance before them, each filled with the effort that led to letting go, is an image of the principle that I am describing here. When it seems appropriate to move toward articulating experiences had in a kindling occurrence, art (poetry, music, dance) lend themselves to communicating what is otherwise next to impossible to speak. Poetry, symbol, and metaphor are the forms of expression that have ever been employed to communicate "a personal contact with the Unameable" (Desmet 2022:16). Is there a place for poetry, symbol, artistic modes of expression in the context of math education – or, for that matter, in science, economics, or medicine education (if the principles being discussed here are no longer considered only in the context of the example upon which this study is focussed)? This is a big question, but in short there are numerous examples in which these disciplines are taught and learned with artistic and contemplative approaches at their heart (Amzeh 2018, Britton *et al.* 2013) and some pedagogical approaches (Stehlik 2019, Gidley 2016) are founded very deeply on the integration of artistic and contemplative approaches to the teaching of all subjects, with an emphasis on the former in early years education and an increasing inclusion of the latter in the later school years.

7.3.6 Speaking Flames

One of the most potent principles that emerges from a study of the cræft of kindling and the experiences it affords for considerations of educational purpose is that *fire is not given*. This may seem to be self-evident, at least in practical terms: fires – obviously – need to be lit, by some means or other, and they need to be tended or they go out. However, deepening our attention to this aspect of kindling to consider the proposal that the human being can be a speaking flame leads to an insight central to this whole thesis – this is also definitely not given. In fact – all efforts described to prepare, situate, navigate thresholds and tensions, and *possibly* kindle a flame apply equally to the human being as they do to fires in the hearth.

The image for this principle that emerges most potently for me from this study is that described by Greg (section 4.3.7) as he went to great lengths to ensure that the candle his group had taken such pains to light made it back to the hearth without being extinguished along the way. The newly kindled flame, vulnerable to the stiff breeze on the day, protected in the improvised shelter of the kindler's coat…the kindler, oblivious to hot wax meeting fingers and clothing, gaze intent on the flame and (peripherally) on his destination of the protective hearth indoors…'outer' and 'inner' flame merging in the will and wish to stay alight. In this image, where our attention can easily dwell on the 'outer' flame burning in the candle's wick, when we speak of education-as-kindling our attention is invited to dwell on the 'inner' flame that has been kindled in the fire-lighter. *If* (and it is a big if) <u>this</u> fire has been kindled, then it is possible to speak meaningfully of education as being about lighting fires and (after Novalis) to speak of the human being as a 'speaking flame'. To understand this perspective of human ontology – of <u>who</u> it is that is that education is <u>for</u> – the following considerations are significant to have in mind.

I think that one of the greatest challenges faced by educators at this time is the need to navigate increasingly complex views, definitions, and identifications for what it means to be – and to become – human. This challenge is presented, in concrete terms, by the myriad of views of human ontology that exist in the social domain today, any (and many) of which can be present to us in our 'teacherly spaces' at one time. Some of the ways in which human ontology are defined in education today include the following.

The dominance of materialism (Betti 2019) as a philosophical influence, informing not only much of contemporary science but also pedagogical philosophy and praxis over the last centuries, has meant that we have before us in our educational contexts 'bodies' which are essentially (in this paradigmatic view) 'quintessences of dust', or 'somewhat complex arrangements of atoms'. A melding of materialism and mechanistic thinking in biology has resulted in the view that humans are 'biochemical machines' (Desmet 2022). From this perspective bodily warmth is a biochemical reaction – generated by a metabolic furnace – and any reference to warmth as an emotional or inter-personal state is either purely metaphorical or meaningless. The increasing atomisation and digitization of education is founded deeply on this view of human ontology.

The view that arose in the nineteenth century of the systematically rational human being has meant that *homo economicus* has also increasingly dominated our view of what it means to be and become human. From this perspective we are educators of Crusoe-like individuals who are pitted against a hostile world, 'self-contained globules of desire' who must be supported to enter a survival-of-the-fittest struggle for existence in a highly competitive and ruthless socio-economic jungle.

Recent publications paint a picture of the human being as a 'biological tragedy' (Bohan, 2022) subject to the vagaries of life, ageing, illness, and death. The (in my view) odious reference to human beings as "ape brained-meat sacks" arising from this ontological perspective (Careiro 2022, after Bohen 2022) leads to the prognosis that we are headed for inevitable loss and a future where "humans are done" (ibid). This view leads to the transhumanist agenda of improving the inherently flawed nature of the biomechanical human through integrating technology ever more fully into our bodies (Eisenstein 2022). This perspective of the human being is gaining advocates in a wide range of disciplines while it has also been described as "the most destructive ideology that has ever existed in history", a product of "the delusional belief in the omnipotence of human rationality" (Desmet 2020:7).

In none of the perspectives sketched out above does a spiritual dimension to being human feature or factor, that aspect of our being which must be acknowledged if we are to speak of 'full human flourishing'.

My interpretation of Novalis' image of the human being as a 'speaking flame' sets my own position and perspective of human beingness at odds with the highly reductive views of the human being sketched out above. A speaking flame is, I propose, a being of body, soul, *and* spirit. Endowed with nothing short of a potentially miraculous means of meeting the world – our hands, limbs, senses, and sensitivity – we are embodied beings who can *cræft…*who can transform the 'given' into a staggering array of creations (admittedly for either good or ill). This part of us needs to learn, develop, realise itself in interaction with the world of 'stuff' (Crawford 2010) and the tensions, tolerances and limits it offers. A sense of our own agency can be kindled from the mirror of material we have transformed – 'I made this' – and this presences a potent purpose for education: to provide opportunities for *making* for the meaningful understanding of the materiality of the world that it provides. The less education provides these opportunities the less we have opportunities to realize the "objective reality of our humanity" (Crawford 2010).

As beings of spirit our intelligence can accommodate to the intelligences (Richards 1989) of mineral, plant and animal, but first we need to acknowledge that *they are* intelligences – that they are our 'relatives' (Deloria Jr. 1999) and not mere configurations of matter subject to relativity and random variation. As moving and flowering flames they warrant our respect (Palmer 1999). I think that we can only grasp the human being as a 'speaking flame' if we kindle, and tend to, the spiritual and sacred domains that have informed human being and becoming for millennia (Glazer et al 1999) and that can continue to do so in contemporary ways. Advocates for an *expanded ontology* (Zajonc 2011, Gidley 2016,) and *enriched epistemology* (Palmer, Zajonc & Scribner 2010) to inform educational

purpose fit for full human flourishing are numerous, even though they do not yet feature strongly in many policy contexts or educational agendas.

Navigating the tensions that can emerge between our bodily and spiritual selves, pulled at times in one way or the other, we experience the realm of *soul*. Feelings and emotions feature strongly here and an essential purpose for education-as-kindling is that we are touched, moved, and awakened to the rich array of affects that arise through our bodily and spiritual experiences. A domain of educational purpose of great importance in terms of soul development is in supporting capacities for resilience and adaptability. This threefold view of human *being* and *becoming* emerges clearly from, and is attested to, in the reflections of kindlers, in the images, stories, poems, and personal accounts they share.

The psychologist Mattias Desmet proposes that "the real task facing us as individuals and as a society is to construct a new view of (humanity) and the world, to find a new foundation for our identity, to formulate new principles for living together with others…" (2022:8). I propose that a new view of humanity can also be a *renewed* view of the human being because a reductive, mechanistic, and materialistic ontological perspective on what it means to be human is still a relatively recent event in historical terms (Lehrs 2014, Gidley 2016). It is no doubt the case that a good deal of the free-floating anxiety, isolation, and experiences of meaninglessness that are so prevalent in society today (Desmet 2022) are in no small measure due to the fact that the fullness of our human flourishing has largely been denied through ways of knowing that have reduced human beings to meat-sacks. For education to be about lighting fires and not filling pails I propose these de-humanizing tendencies (Kahn 2017) need to be challenged and countered. Although there are some current examples of where such challenges are being made (Millar 2022) these are, in my view, all too rare and still outside a good deal of educational discourse.

As is apparent from this study of the kindling-craft, fire is not given, and an experience of our 'I' or ourselves as 'speaking flames' is neither. An education with this view of the human being at its heart can, however, strive to create the right conditions for this experience to flame forth. Like with fire, the ephemeral but ineffable encounter with the flame of our humanness, the I of our ego requires kindling, tending, and kindling anew – which is an increasingly difficult task while the highly reductive ontological views of what it means to be human continue to dominate our social domains today.

7.3.7 Restoring the vertical

I discussed previously (in Chapter Six) Schumacher's notion that contemporary human understanding (and self-understanding) suffers from *ontological discontinuity* and his proposal that what is needed to address this crisis is a *restoration of the vertical*. Restoring the vertical is an act, a deed. It is both a raising up and a receiving in. A restoration of the vertical is potently performed in every fire-lighting act, each kindling occurrence is a potential Needfire, an event where the dried and dead matter from yesteryear becomes the receptacle in which a new flame can alight. If attended to with care and respect, with

reverence and humility, kindlers can experience the transformative potential of this threshold experience. An inner awareness and openness is required, however, for this potential to be realized, and stories have been employed throughout the ages to prepare makers to be transformed themselves as they undertake their cræft.

Under the influence of Enlightenment thinking, stories and myths have often been labelled as 'fictional' or fantastical accounts of events that have no basis in 'reality'. Coyotes, after all, do not go around as Two Leggeds part of the time (see the story reproduced in Appendix D, a story that I often tell in kindling contexts) and on all fours – "as a normal coyote" – when humans are present. There is no such thing as 'Fire-Beings' protecting fire in a lifeworld rendered atomistically and mechanistically, as has become the dominant way of seeing in recent centuries. Similarly, we must - from these perspectives - treat the myth of Prometheus as, at best, an allegory or morality fable for what it means to go against the will of the Gods (who don't really exist anyway… of course).

To conceive of fire as 'the rapid oxidation of a material in the exothermic chemical process of combustion, releasing heat, light and various reaction products' (2.2.2) is to attend to it only in its most reduced, physical expression. This account for fire is, I argue, actually another story – a way of gleaning meaning from our experiences. Although this story has claimed an authority for itself above virtually all other sense-making means that humans employ, it has set itself in stark distinction to the "sacred tales of the tribe" (Deloria Jr. 2006). Mechanistic means of understanding fire arise from the abstraction (removal) of all *beingness* from the peopled world inhabited by Indigenous and many pre-Enlightenment societies (Jensen 2000). They are accounts of fire arising from science's "utopian pursuit of an artificial and rationally controllable universe" which "equates to the destruction of the essence of life" (Desmet 2022:65). The result of this epistemological approach becoming as dominant as it has is that we lack adequate means to understand – let alone incorporate into our meaning-making and our actions in the world – *life, consciousness,* and *self-awareness.* We have, in other words, *inadequate* conceptions of what differentiates minerals from plants, plants from animals, and animals from humans which results in *ontological discontinuities* (Schumacher 2011) between these.

The Oglala Sioux author Vine Deloria Jr. writes in *The World We Used to Live In:*

> The secularity of the society in which we live must share considerable blame in the erosion of spiritual powers of all traditions…believing in nothing, we have pre-empted the role of the higher spiritual forces by acknowledging no greater good than what we can feel and touch. Wrenched from a free life where the natural order had to be understood and obeyed, confined within a foreign education system where memorization and recital substitute for learning and knowledge, each generation of Indians has been moved farther and farther away from the substance of the spiritual energy that once directed our lives. (2006:xviii)

Deloria's reflection on the impacts of the education his people were subjected to is applicable more widely, of course, the 'erosion of spiritual powers' only lying further back in

our collective remembering to now constitute a collective amnesia (Bortoft 1999). Restoring the vertical, as a principle emerging from deliberations of education-as-kindling, is an educational purpose that gathers and coheres the principles discussed in previous sections of this chapter. It may seem to be an extreme statement when Delors *et al*. propose that *the survival of humanity depends* on "each and every one, acting in accordance with their traditions and convictions…to lift their minds and spirits to the plane of the universal and, in some measure, to transcend themselves" (Delors *et. al.* 1996, Tawil and Cougoureux 2013) but I think this is not at all too extreme. Mere technical innovation or an attitude that things will sort themselves out (through the invisible hand of market forces, a change of political party, or more investment) will not suffice.

Summary

This chapter has identified and discussed *principles* that emerge from this study of fire-cræft and deliberations of kindling metaphors for their relevance for educational concerns in broad terms. These principles are, it is proposed, widely applicable for progressive pedagogical approaches to education in a range of disciplines. This proposal finds support in some contemporary literature and is regularly attested to in my own pedagogical praxis. In the introduction to this thesis, I stated that 'fire-craft continues to hold a unique place in my educational endeavours even when I am engaged in teaching contexts that seem wholly unrelated to it... This is to say that even though I periodically facilitate practical kindling sessions for adult learners, the affordances of these events spread well beyond episodic encounters with fire to inform my activities as an educator more generally'. It is the *principles* outlined in this chapter that can be seen to be at the root of the previously reiterated teacherly aspiration to 'teach math like fire-lighting', principles that will inform those educators who holds the aim of – as well as fostering competency in math - the restoration of the vertical and realisation of experiences of agency in participants in pedagogical interactions.

The stages and principles identified in kindling – as method and metaphor for education – emerge from this study as a kind of map or guide for how educational processes can unfold. In my own teaching praxis these principles inform my sense for the importance of good preparation for sessions and seminars, and an understanding of these principles enables me to navigate tensions and thresholds that arise in the course of a session, programme or educational process. I notice that I am sensitized from so many years of facilitating kindling sessions as practical fire-craeft to the *potential* for educational occurences to be transformative, and to lift the learning process out of the largely transactional dynamic it has all too often adopted in contemporary settings. These principles are significant for my own pedagogical practice as it is my deep conviction that new technologies, techniques, or tweaks will not – alone – be adequate to addressing the many complex events that we are encountering in these early decades of the twentieth century but new ways of becoming and being human.

…Sometimes it takes an unwavering faith
and a passionate, muscular discipline
to coax the light out of the darkness.
Sometimes a man must go alone into the forest
and die into its heart
so that he can bring back
the forgotten pieces of the world,
a world kept alive only by this:
our constant remembering.
our constant telling
our constant calling out
far into the bright burning.

Daverick Leggett

Figure 40

Chapter Eight

Figure 41

As educators, we cannot heal the shadow of our culture by educating people to succeed in society as it is. We must have the courage to educate people to heal the world into what it might become.

Remen 1999

8. Conclusion

This thesis has emerged out of an immersion in the cræft of *kindling* which was undertaken through multiple perspectives and through diverse paths of deliberation. It has sought for a mutual illumination of both kindling-as-making (cræft) and as metaphor at a time when fire-lighting metaphors have largely become empty signifiers and making has fallen out of focus in many educational settings. Questions about educational purpose have also been considered, and these have been discussed in light of both *stages* inherent in fire-cræft and *principles* applicable to educational philosophy and praxis distilled from these.

Entangled and entwined with questions of purpose are, necessarily, ontological concerns, and I see a radical ontological reduction informing much of educational policy and praxis today when the question of *who* it is that education is for is considered. It seems that we are moving into an increasingly de-humanized world – where 'human' is defined narrowly through lenses dominated by neo-classical economics, digital technologies, and by a mechanistically minded biology that has yet to acknowledge its inability to understand *life* let alone the mysteries of self-awareness or our 'is-ness'.

There are, around the edges of contemporary educational discourse, challenges to views that posit students as being merely consumers or paying customers and these perspectives posit humans as embodied, ensouled *and* inspirited beings. Several significant challenges lie before educators who hold this three-fold view of the human being, however. This thesis has discussed a number of these challenges in terms of tensions that exist in a wide range of human experience, and – starting with a focus on the cræft of kindling – I have also considered the challenging nature of these tensions and the liminal experiences they evoke.

Supporting students to development capacities for navigating tensions, troublesome experiences and states of liminality are aspects of transformative learning presented by a study of kindling. The experience of tensions (including any number not named or attended to in this text) and encounters with troublesome thresholds are, after all, an increasingly prevalent feature of our time. Making – if understood as *crœfting* in its fullest sense – has a significant contribution to make in educational processes that strive to develop capacities for living in times such as these. Crœfts do this because of the stages they entail – situating, sourcing, preparing, and transforming. Cræft – as evident in the 'instance' of fire-lighting, as well as in other examples discussed throughout the latter chapters of this text – orients the maker meaningfully both to the materiality of the world and their own physicality *while also* fostering a sense of agency and opening the crœfter to an experience of the sacred.

The fact that crœfting has largely lost its recognition in many contemporary educational contexts is, therefore, a loss with significant implications. Cræft has been relegated for the most part to the realm of 'hobby craft' or 'heritage' and the potential to realize ourselves as *makers* is increasingly threatened by aims of replacing the need for us to do stuff at all (robots will do it for us) or for the need to give too much attention to who we are (we will 'fix' and 'redesign' those flawed elements of our biomechanical selves through gene editing, technological prowess, and by marrying ourselves ever more closely to the microchip).

The disappearance of cræfting from our curricula is, furthermore, connected to ongoing loss of a vertical dimension which not only once oriented people around the globe to a world of manifold intelligences and ways of being, it did this by inviting capacities for care, respect, and reverence in our inter-actions with the more-than-human world. A loss of the vertical dimension has landed us in a kind of Flatland, a world which – we are often taught – is essentially comprised of varying configurations of atoms. The result of this ontological reduction is – amongst other things – an epidemic of meaninglessness, free floating anxiety, and isolation.

By attending to education-as-kindling as I have done in this thesis, I realize that the task of lighting fires undertaken in educational contexts is akin to igniting a Needfire – an intentional act performed collaboratively with the aim of bridging material and spiritual domains, the sacred and the situational in order to 'knit' together realms that have been sundered. If there is weight in proposals reiterated in this thesis that the future of people and planet depend on rekindling a connection to the 'universal' and awareness of our 'is-ness' then this is a pressing purpose for educators to attend to. Fire-lighting emerges from the 1st, 2nd, and 3rd person perspectives considered in this text as a particularly potent 'instance' of an action that can contribute to this aim and purpose of the teachers' cræft.

When I stated in the early passages of this text that kindling will not address educational objectives such as *qualification, socialization,* or *emancipation* this was a statement to provoke as much as it was to challenge how these aims are often understood. I think learning the cræft of kindling, and learning any cræft, <u>can</u> be a significant contribution to all three of these aspects of educational purpose. They do so, however, in their affordances and through the principles they entail and not necessarily in a 'hard' or instrumental way. The cræft of the educator is enriched through a first-hand experience of principles such as those discussed in this study of fire-cræft, although it is essential that these are not taken to be fixed or firm, codified or rigidified as what a cræft or learning process *must* include. Cræft is situational, contextual and is an occurrence that arises through a constellation of participants in place in a given set of conditions. Responsiveness and adaptability are essential, as are resilience and receptiveness.

If education is to be about lighting fires and not merely filling pails, I think that the educator's cræft in coming years must attend to the possibility that humans are not mere meat sacks but that we have the potential to be speaking flames. We have the capacity to engage actively in physical and spiritual domains and by bridging these, by kindling their connection, we can imbue our actions with meaning and purpose for ourselves as well as for each other. Addressing this possibility will be contingent on an educational stance that is willing to engage the troublesome threshold that lies between what we learn about being human by attending to what *is* and what is awoken amongst us when we participate in igniting what we can *become.*

Figure 42

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Appendices

Appendix A: Tools of the trade and their use in fire-craft

The main components or ‘tools’ required for fire-craft are;

A fire Bow

A bearer

A spindle

An ember pan or ember catcher

A Hearthboard or ‘motherboard’

Kindling in groups of three with; One person holding the bearer and the spindle

Two working the bow

The hearthboard stabilized with a foot.

Appendix B: Additional documentation of Kindling Events

Along with the findings from Chapters One through Five two additional resources have informed my deliberations on what an engagement with fire-cræft can contribute to considerations of educational purpose. Firstly - video footage taken during a fire lighting session in January 2020 has provided an invaluable record of the interactions, stages, and thresholds encountered by kindlers engaged in the task. Fire-lighting is a cræft that unfolds in specific times and places and this video footage documents one 'case' of a kindling session. It is not treated in my re-watching of this material as the *definitive* record of the 'teacherly action' that this thesis discusses, but it is a significant contribution to understanding the kindling task from an adult education perspective as it provides a window into the ways in which a group of participants navigated the physical, emotional, and social dynamics that fire-lighting evokes. Even though the film might be considered to be *limited* in its potential to offer insight into this task in broad and generalizable ways (no two kindling sessions are exactly alike if not only because they take place in different times and places, and with different participants), there are nonetheless very valuable insights that can be gleaned from this footage. Having facilitated kindling events now for over a decade I can attest to a set of distinctly recognizable stages that I have discussed in terms of *threshold experiences* in the latter chapters of this text, which are apparent in the body language, facial expression, social exchanges of the participants. These thresholds are marked by observable (sometimes only audible) 'cues' which comprise a kind of guide or roadmap for how I facilitate the kindling process and I rely on them to make in-the-moment decisions as to when support is needed for a group and in what form – or if I should leave the group to continue to self-navigate through the task.

Video files provided as supporting material for this thesis are accessible through this link:

https://doi.org/10.15125/BATH-01252

Appendix C: Flow Theory in Outline

The state of *flow* is one that can be entered if the following conditions are met:

- The individual who experiences this state engages in challenges or activities that present them with a degree of challenge exceeding their existing skills – i.e that 'stretch' them – but that are not so challenging as to be unachievable
- There are clearly defined goals and immediate feedback to the active individual in terms of progress being made (my observation is that this feedback is both from the activity itself – in fire-lighting terms, for instance, the absence or emergence of smoke from the work with the fire-bow – or from a facilitator, instructor, guide).

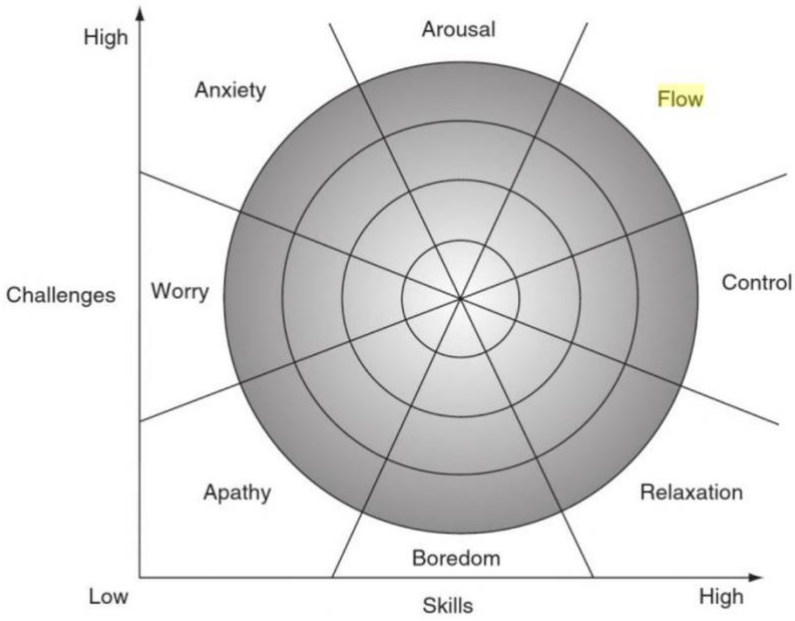


Image and text source: Nakamura, J. and Csikszentmihalyi, M., 2009. Flow theory and research. *Handbook of positive psychology*, p.201

The subjective state of flow is one that is described as:

- Intense focus and concentration in the present
- Action and awareness merge seamlessly
- Loss of reflective self-consciousness
- A sense that the capacity is there to deal with whatever presents itself in the engagement with the activity
- Distortion of the experience of time – i.e. that time has passed faster than in non-flow states.
- The process or activity is experienced as being intrinsically rewarding, irrespective of achievement or accomplishing an end goal articulated prior to engagement.

Appendix D: Origin Story – Kindling the Imagination

How Coyote Stole Fire
(Retrieved from https://www.firstpeople.us/FP-Html-Legends/How_Coyote_Stole_Fire-Shasta.html)

Long ago, when man was newly come into the world, there were days when he was the happiest creature of all. Those were the days when spring brushed across the willow tails, or when his children ripened with the blueberries in the sun of summer, or when the goldenrod bloomed in the autumn haze.

But always the mists of autumn evenings grew more chill, and the sun's strokes grew shorter. Then man saw winter moving near, and he became fearful and unhappy. He was afraid for his children, and for the grandfathers and grandmothers who carried in their heads the sacred tales of the tribe. Many of these, young and old, would die in the long, ice-bitter months of winter.

Coyote, like the rest of the People, had no need for fire. So he seldom concerned himself with it, until one spring day when he was passing a human village. There the women were singing a song of mourning for the babies and the old ones who had died in the winter. Their voices moaned like the west wind through a buffalo skull, prickling the hairs on Coyote's neck.

"Feel how the sun is now warm on our backs," one of the men was saying. "Feel how it warms the earth and makes these stones hot to the touch. If only we could have had a small piece of the sun in our teepees during the winter."

Coyote, overhearing this, felt sorry for the men and women. He also felt that there was something he could do to help them. He knew of a faraway mountain-top where the three Fire Beings lived. These Beings kept fire to themselves, guarding it carefully for fear that man might somehow acquire it and become as strong as they. Coyote saw that he could do a good turn for man at the expense of these selfish Fire Beings.

So Coyote went to the mountain of the Fire Beings and crept to its top, to watch the way that the Beings guarded their fire. As he came near, the Beings leaped to their feet and gazed searchingly round their camp. Their eyes glinted like bloodstones, and their hands were clawed like the talons of the great black vulture.

"What's that? What's that I hear?" hissed one of the Beings.

"A thief, skulking in the bushes!" screeched another.

The third looked more closely, and saw Coyote. But he had gone to the mountain-top on all fours, so the Being thought she saw only an ordinary coyote slinking among the trees.

"It is no one, it is nothing!" she cried, and the other two looked where she pointed and also saw only a grey coyote. They sat down again by their fire and paid Coyote no more attention.

So he watched all day and night as the Fire Beings guarded their fire. He saw how they fed it pine cones and dry branches from the sycamore trees. He saw how they stamped furiously on runaway rivulets of flame that sometimes nibbled outwards on edges of dry grass. He saw also how, at night, the Beings took turns to sit by the fire. Two would sleep while one was on guard; and at certain times the Being by the fire would get up and go into their teepee, and another would come out to sit by the fire.

Coyote saw that the Beings were always jealously watchful of their fire except during one part of the day. That was in the earliest morning, when the first winds of dawn arose on the mountains. Then the Being by the fire would hurry, shivering, into the teepee calling, "Sister, sister, go out and watch the fire." But the next Being would always be slow to go out for her turn, her head spinning with sleep and the thin dreams of dawn.

Coyote, seeing all this, went down the mountain and spoke to some of his friends among the People. He told them of hairless man, fearing the cold and death of winter. And he told them of the Fire Beings, and the warmth and brightness of the flame. They all agreed that man should have fire, and they all promised to help Coyote's undertaking.

Then Coyote sped again to the mountain-top. Again the Fire Beings leaped up when he came close, and one cried out, "What's that? A thief, a thief!"

But again the others looked closely, and saw only a grey coyote hunting among the bushes. So they sat down again and paid him no more attention.

Coyote waited through the day, and watched as night fell and two of the Beings went off to the teepee to sleep. He watched as they changed over at certain times all the night long, until at last the dawn winds rose.

Then the Being on guard called, "Sister, sister, get up and watch the fire."

And the Being whose turn it was climbed slow and sleepy from her bed, saying, "Yes, yes, I am coming. Do not shout so."

But before she could come out of the teepee, Coyote lunged from the bushes, snatched up a glowing portion of fire, and sprang away down the mountainside.

Screaming, the Fire Beings flew after him. Swift as Coyote ran, they caught up with him, and one of them reached out a clutching hand. Her fingers touched only the tip of the tail, but the touch was enough to turn the hairs white, and coyote tail-tips are white still. Coyote shouted, and flung the fire away from him. But the others of the People had gathered at the mountain's foot, in case they were needed. Squirrel saw the fire falling, and caught it, putting it on her back and fleeing away through the tree-tops. The fire scorched her back so painfully that her tail curled up and back, as squirrels' tails still do today.

The Fire Beings then pursued Squirrel, who threw the fire to Chipmunk. Chattering with fear, Chipmunk stood still as if rooted until the Beings were almost upon her. Then, as she turned to run, one Being clawed at her, tearing down the length of her back and leaving three stripes that are to be seen on chipmunks' backs even today. Chipmunk threw the fire to Frog, and the Beings turned towards him. One of the Beings grasped his tail, but Frog gave a mighty leap and tore himself free, leaving his tail behind in the Being's hand---which is why frogs have had no tails ever since.

As the Beings came after him again, Frog flung the fire on to Wood. And Wood swallowed it.

The Fire Beings gathered round, but they did not know how to get the fire out of Wood. They promised it gifts, sang to it and shouted at it. They twisted it and struck it and tore it with their knives. But Wood did not give up the fire. In the end, defeated, the Beings went back to their mountain-top and left the People alone.

But Coyote knew how to get fire out of Wood. And he went to the village of men and showed them how. He showed them the trick of rubbing two dry sticks together, and the trick of spinning a sharpened stick in a hole made in another piece of wood. So man was from then on warm and safe through the killing cold of winter.

Appendix E: Poems composed by Kindlers

FIRE POEMS

Fire, you tantalizing, elusive being!
You came close to us and we sensed your beginning.
Prayer to the gods to draw you down…
You drew from us our mutual collaboration;
You drew from us patience, perseverance, dogged persistence
And amiable partnership
Feeling the bow, feeling the intention of the other,
Willing the stick to spin.
You were mildly pleased with us and approached, revealing a tiny puff of smoke and a scent of burning embers
But today, no flame.
"Another time," you said, "When you have learnt more thoroughly how to conjure me!"

J.H.

Fire ('you' perspective)

Oh elusive ember
release yourself from wood
Salamander & fire dragon
help us if you could
Kyote, help us in our task
Bent over bow and papery hearth

At last your flames for some are rising
Releasing elusive fire at last

Hazel, ivy, sycamore and birch
each together in right place
gloriously releasing tensions
Hold for us a warming space

Nest of straw and fluffy seeds
At the ready for so long
At last an ember to receive
Never though to burst in song

Towards us, others you have drawn
Helping hands for peg & bow
Now in rhythm, smoke arising
But not today your face will show

A. B.

Fire Diamond poems
(poems written with kindlers contributing a line each and then passing so that the poem is generated collaboratively)

1

Sizzling
Burning embers
Hot ash smouldering
Passion opening embracing being
Urgent desiring surrounding
Life's embrace
Fulfilment

2

Radiation
glows Spreads
force sense wonder
fill my whole existence
whole dimension life
embers glow
constantly

3

Fickle
immediately changing
embers, smoking, flame
the wood is everything
glimmer of hope
at last
rejoice!

4

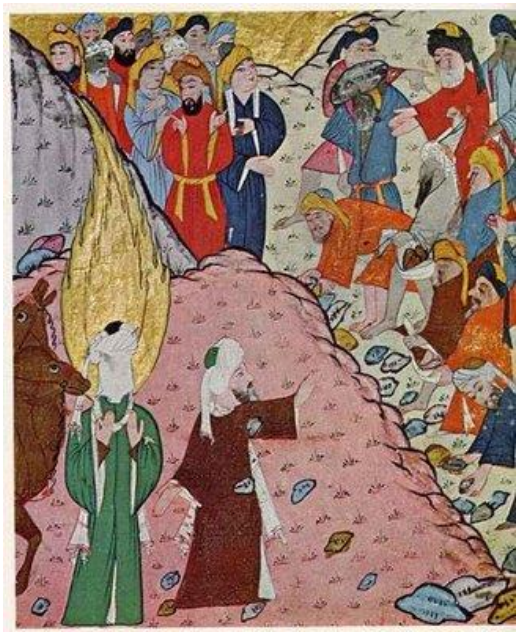
Flame
forth coming
friction creating possibility
energy lots its traction
focus slowly dwindling
sliding elsewhere
ash

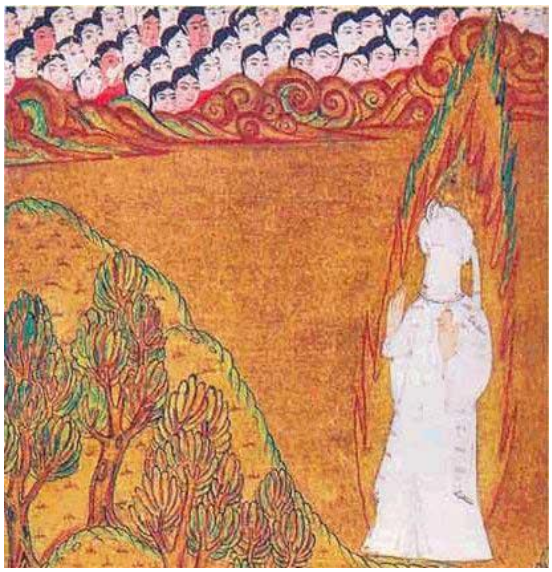
5

Together
we gather
to kindle spirit
crouched near the earth
taking great care
cradled love
arrives!

Appendix F: Fire in life of Mohammed

These images were emailed to me by F. Khan along with the text quoted on pages 47 and 97. The original source for these images was not provided to me by F. Khan in her personal communication.





Appendix G: The Bright Burning

The Bright Burning - by Daverick Leggett

We are always forgetting this world
though each day it kisses us
with its lavish steaming breath
though the earth drums in our ears
though the flowers turn as we walk by
amazed at our forgetfulness.

Knowing that we would forget
the last god knew what he must do.
He made himself a grave of leaves,
laying down his great body in the forest soil
and, dying over and over again
until he became tree,
wrote prayers of thankfulness in the thick trunk
whose words swam upwards
and became leaves.

Now the painter sits amongst the strewn
litter of bright blessings
beneath a wild sky chattering
with prayer flags.
Knowing also what he must do
he wets the brush and stroke upon stroke
sings the trees and the mumbling river awake.
Moving steadily back and forth
between the leaves and the eager palette
he calls the light
out of the dark heart of the forest.

Beneath Dartmoors oaks I too bent once
with such poised concentration
making fire from friction,
my locked arm driving the drill back and forth
into the ivy hearth I had made,
nursing the glowing ember
and blowing the fanfare of flame
awake in my hands.

Sometimes it takes an unwavering faith
and a passionate, muscular discipline
to coax the light out of the darkness.
Sometimes a man must go alone into the forest
and die into its heart
so that he can bring back
the forgotten pieces of the world,
a world kept alive only by this:
our constant remembering.
our constant telling
our constant calling out
far into the bright burning.